```
DDDDDDDDDDDD        IIIIIIIIII    RRRRRRRRRRRRRR
DDDDDDDDDDDD        IIIIIIIIII    RRRRRRRRRRRRRR
DDDDDDDDDDDD        IIIIIIIIII    RRRRRRRRRRRRRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRR         RRR
DDD         DDD        III        RRRRRRRRRRRR
DDD         DDD        III        RRRRRRRRRRRR
DDD         DDD        III        RRRRRRRRRRRR
DDD         DDD        III        RRR   RRR
DDD         DDD        III        RRR   RRR
DDD         DDD        III        RRR   RRR
DDD         DDD        III        RRR      RRR
DDD         DDD        III        RRR      RRR
DDD         DDD        III        RRR      RRR
DDDDDDDDDDDD        IIIIIIIIII    RRR         RRR
DDDDDDDDDDDD        IIIIIIIIII    RRR         RRR
DDDDDDDDDDDD        IIIIIIIIII    RRR         RRR
```

```
**FILE**ID**DISPLAY                                M 1






DDDDDDDD      IIIIII      SSSSSSSS  PPPPPPPP    LL            AAAAAA    YY      YY
DDDDDDDD      IIIIII      SSSSSSSS  PPPPPPPP    LL            AAAAAA    YY      YY
DD      DD      II      SS          PP      PP  LL          AA      AA  YY      YY
DD      DD      II      SS          PP      PP  LL          AA      AA  YY      YY
DD      DD      II      SS          PP      PP  LL          AA      AA    YY  YY
DD      DD      II      SS          PP      PP  LL          AA      AA    YY  YY
DD      DD      II        SSSSSS    PPPPPPPP    LL          AA      AA      YY
DD      DD      II        SSSSSS    PPPPPPPP    LL          AA      AA      YY
DD      DD      II              SS  PP          LL          AAAAAAAAAA      YY
DD      DD      II              SS  PP          LL          AAAAAAAAAA      YY
DD      DD      II              SS  PP          LL          AA      AA      YY          ....
DD      DD      II              SS  PP          LL          AA      AA      YY          ....
DDDDDDDD      IIIIII    SSSSSSSS    PP          LLLLLLLLLL  AA      AA      YY          ....
DDDDDDDD      IIIIII    SSSSSSSS    PP          LLLLLLLLLL  AA      AA      YY          ....


LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
0 MODULE DISPLAY (
0                 LANGUAGE (BLISS32),
0                 IDENT = 'V04-000'
0                 ) =
0
1 BEGIN
1
1 !****************************************************************************
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1 !*                                                                          *
1 !****************************************************************************
1
1 !++
1 !
1 ! FACILITY:      DIRECTORY
1 !
1 ! ABSTRACT:
1 !
1 !       This module contains all of the routines necessary to display the
1 !       information gathered about the selected files.
1 !
1 ! ENVIRONMENT:
1 !
1 !       VAX/VMS operating system, unprivileged user mode utilities.
1 !
1 !--
1 !
1 ! AUTHOR:        L. Mark Pilant          CREATION DATE:  4-Mar-1983
1 !
1 ! MODIFIED BY:
1 !
1 !       V03-020 LMP0296         L. Mark Pilant,         6-Aug-1984  13:01
1 !               Access the file by "file-ID" during /FULL if the device is
1 !               a sequential device (i.e., a magtape).  This is to compensate
1 !               for a bug in the magtape ACP.
1 !
1 !       V03-019 LMP0282         L. Mark Pilant,         25-Jul-1984  9:58
1 !               Check the info needed flags, not the qualifier present flags,
1 !               when determining if information is needed about a file.
```

```
;    58      0058  1 !
;    59      0059  1 !        V03-018 LMP0227         L. Mark Pilant,         9-Apr-1984  11:20
;    60      0060  1 !                Use FIB$L_ACL_STATUS to check the results of the READACL
;    61      0061  1 !                operation.  Also, only read the ACL in 512 byte chunks, rather
;    62      0062  1 !                than trying to read in the entire ACL.
;    63      0063  1 !
;    64      0064  1 !        V03-017 LMP0220         L. Mark Pilant,         24-Mar-1984  23:33
;    65      0065  1 !                Remove references to journaling.
;    66      0066  1 !
;    67      0067  1 !        V03-016 LMP0212         L. Mark Pilant,         12-Mar-1984  15:01
;    68      0068  1 !                Make sure that a new channel is allocated not only when
;    69      0069  1 !                the device changes, but if no channel was previously assigned.
;    70      0070  1 !
;    71      0071  1 !        V03-015 LMP0211         L. Mark Pilant,         10-Mar-1984  12:49
;    72      0072  1 !                Display all of the useful information obtained directly from
;    73      0073  1 !                the disk ACP in the /FULL display.  Also correct a bug that
;    74      0074  1 !                caused long file names to be truncated when the /SINCE
;    75      0075  1 !                qualifier was the only qualifier given on the command line.
;    76      0076  1 !
;    77      0077  1 !        V03-014 LMP0187         L. Mark Pilant,         2-Feb-1984  17:29
;    78      0078  1 !                Fix a bug that caused the first ACE to be dropped from the
;    79      0079  1 !                ACL display during a full display.
;    80      0080  1 !
;    81      0081  1 !        V03-013 LMP0182         L. Mark Pilant,         11-Jan-1984  12:48
;    82      0082  1 !                Only do selection when the /SELECT qualifier was given.
;    83      0083  1 !
;    84      0084  1 !        V03-012 LMP0176         L. Mark Pilant,         6-Dec-1983  9:08
;    85      0085  1 !                Use the correct display width when formatting an ACE.
;    86      0086  1 !
;    87      0087  1 !        V03-011 LMP0171         L. Mark Pilant,         23-Nov-1983  10:08
;    88      0088  1 !                Use the display width when formatting an ACE, not a fixed
;    89      0089  1 !                value.  Also impliment the size selection item (this was
;    90      0090  1 !                dropped on the floor).
;    91      0091  1 !
;    92      0092  1 !        V03-010 LMP0163         L. Mark Pilant,         10-Oct-1983  9:32
;    93      0093  1 !                Correct a bug that caused an RMS IFI error when using any
;    94      0094  1 !                of the common qualifiers (and RMS was gathering the info).
;    95      0095  1 !
;    96      0096  1 !        V03-009 LMP0160         L. Mark Pilant,         3-Oct-1983  15:10
;    97      0097  1 !                Return the channel if the ACP QIO to get the file
;    98      0098  1 !                information fails.
;    99      0099  1 !
;   100      0100  1 !        V03-008 LMP0157         L. Mark Pilant,         27-Sep-1983  10:57
;   101      0101  1 !                Add support for a unique message file.
;   102      0102  1 !
;   103      0103  1 !        V03-007 LMP0155         L. Mark Pilant,         19-Sep-1983  11:33
;   104      0104  1 !                Fix a bug that caused the RMS journaling names to be put
;   105      0105  1 !                in the wrong place when obtained directly from the ACP.
;   106      0106  1 !
;   107      0107  1 !        V03-006 LMP0140         L. Mark Pilant,         24-Aug-1983  1:55
;   108      0108  1 !                Remove temporary hack for identifiers.  Also, fix a bug
;   109      0109  1 !                that caused second network access for network directories.
;   110      0110  1 !
;   111      0111  1 !        V03-005 DAS0001         David Solomon           29-Jul-1983
;   112      0112  1 !                Journaling bit RUA is now ONLY_RU.
;   113      0113  1 !
;   114      0114  1 !        V03-004 LMP0119         L. Mark Pilant,         15-Jun-1983  11:58
```

```
1 !                 Add support for identifiers.
1 !
1 !         V03-003 LMP0108         L. Mark Pilant,         28-Apr-1983  11:05
1 !                 Don't double space when listing only the file name in
1 !                 one column.  Also, add support for RMS journaling.
1 !
1 !         V03-002 LMP0100         L. Mark Pilant,         14-Apr-1983  11:48
1 !                 Misc fixups.  Also add $FORMAT_ACL system service.
1 !
1 !         V03-001 LMP0096         L. Mark Pilant,         29-Mar-1983  10:10
1 !                 Correctly handle locked files.
1 !
1 !**
1
1 LIBRARY 'SYS$LIBRARY:LIB';
1 REQUIRE 'SRC$:DIRECTDEF';
```

```
;  132          0532  1 FORWARD ROUTINE
;  133          0533  1         DIR$GET_INFO,                           ! Get information about a file
;  134          0534  1         DIR$RMS_FILL,                           ! Get specific info from RMS
;  135          0535  1         DIR$ACP_FILL,                           ! Get specific info from the ACP
;  136          0536  1         DIR$SHOW_INFO,                          ! Display gathered information
;  137          0537  1         DIR$SHOW_FULL,                          ! Display all information
;  138          0538  1         DIR$SHOW_ACL,                           ! Display the file's ACL
;  139          0539  1         DIR$TOTAL,                              ! Display per directory totals
;  140          0540  1         DIR$GRAND_TOTAL,                        ! Display overall totals
;  141          0541  1         DIR$APPEND;                             ! Append text to current line
;  142          0542  1
;  143          0543  1 OWN
;  144          0544  1         PROT_TABLE      : VECTOR [16]           ! Protection descr table
;  145          0545  1                           INITIAL (
;  146          0546  1                                   $DESCRIPTOR ('RWED'),
;  147          0547  1                                   $DESCRIPTOR ('WED'),
;  148          0548  1                                   $DESCRIPTOR ('RED'),
;  149          0549  1                                   $DESCRIPTOR ('ED'),
;  150          0550  1                                   $DESCRIPTOR ('RWD'),
;  151          0551  1                                   $DESCRIPTOR ('WD'),
;  152          0552  1                                   $DESCRIPTOR ('RD'),
;  153          0553  1                                   $DESCRIPTOR ('D'),
;  154          0554  1                                   $DESCRIPTOR ('RWE'),
;  155          0555  1                                   $DESCRIPTOR ('WE'),
;  156          0556  1                                   $DESCRIPTOR ('RE'),
;  157          0557  1                                   $DESCRIPTOR ('E'),
;  158          0558  1                                   $DESCRIPTOR ('RW'),
;  159          0559  1                                   $DESCRIPTOR ('W'),
;  160          0560  1                                   $DESCRIPTOR ('R'),
;  161          0561  1                                   $DESCRIPTOR ('')
;  162          0562  1                                     );
;  163          0563  1
;  164          0564  1 EXTERNAL ROUTINE
;  165          0565  1         LIB$GET_VM              : ADDRESSING_MODE (GENERAL),
;  166          0566  1         LIB$QUAL_FILE_MATCH     : ADDRESSING_MODE (GENERAL);
;  167          0567  1
;  168          0568  1 EXTERNAL LITERAL
;  169          0569  1         LIB$_FILFAIMAT,
;  170          0570  1
;  171          0571  1 ! DIRECTORY text messages
;  172          0572  1
;  173          0573  1         DIR$_NEWDIRECT,
;  174          0574  1         DIR$_NOBRFILEID,
;  175          0575  1         DIR$_NOBRCREDAT,
;  176          0576  1         DIR$_NOBRREVDAT,
;  177          0577  1         DIR$_NOBREXPDAT,
;  178          0578  1         DIR$_NOBRBAKDAT,
;  179          0579  1         DIR$_FULLFILEID,
;  180          0580  1         DIR$_NOFUFILEID,
;  181          0581  1         DIR$_FULLSIZE,
;  182          0582  1         DIR$_FULLOWNERID,
;  183          0583  1         DIR$_FULLOWNERUIC,
;  184          0584  1         DIR$_NOFUCREDAT,
;  185          0585  1         DIR$_FULLCREDAT,
;  186          0586  1         DIR$_NOFUREVDAT,
;  187          0587  1         DIR$_FULLREVDAT,
;  188          0588  1         DIR$_NOFUEXPDAT,
;  189        0589  1          DIR$_FULLEXPDAT,
;  190        0590  1          DIR$_NOFUBAKDAT,
;  191        0591  1          DIR$_FULLBAKDAT,
;  192        0592  1          DIR$_FILEORG,
;  193        0593  1          DIR$_FILORGSEQ,
;  194        0594  1          DIR$_FILORGREL,
;  195        0595  1          DIR$_FILORGIDX,
;  196        0596  1          DIR$_IDXPROLOG,
;  197        0597  1          DIR$_IDXAREA,
;  198        0598  1          DIR$_FILORGUNK,
;  199        0599  1          DIR$_FILEATTR,
;  200        0600  1          DIR$_MAXBKTSIZ,
;  201        0601  1          DIR$_BUCKETSIZ,
;  202        0602  1          DIR$_GBLBUFCNT,
;  203        0603  1          DIR$_VERLIMIT,
;  204        0604  1          DIR$_NOVERLIMIT,
;  205        0605  1          DIR$_FILATRCTG,
;  206        0606  1          DIR$_FILATRCTB,
;  207        0607  1          DIR$_FILATRLCK,
;  208        0608  1          DIR$_FILATRNOBAK,
;  209        0609  1          DIR$_FILATRWRBAK,
;  210        0610  1          DIR$_FILATRRDCHK,
;  211        0611  1          DIR$_FILATRWRCHK,
;  212        0612  1          DIR$_FILATRBADACL,
;  213        0613  1          DIR$_FILATRDIR,
;  214        0614  1          DIR$_FILATRBADBLK,
;  215        0615  1          DIR$_FILATRNOCHRG,
;  216        0616  1          DIR$_FILATRERASE,
;  217        0617  1          DIR$_RECFORMAT,
;  218        0618  1          DIR$_RECFMTFIX,
;  219        0619  1          DIR$_RECFMTVAR,
;  220        0620  1          DIR$_RECFMTVFC,
;  221        0621  1          DIR$_RECFMTUDF,
;  222        0622  1          DIR$_RECFMTSTM,
;  223        0623  1          DIR$_RECFMTSTMLF,
;  224        0624  1          DIR$_RECFMTSTMCR,
;  225        0625  1          DIR$_RECFMTUNK,
;  226        0626  1          DIR$_MAXRECSIZ,
;  227        0627  1          DIR$_RECATTR,
;  228        0628  1          DIR$_NORECATTR,
;  229        0629  1          DIR$_CRCARCTL,
;  230        0630  1          DIR$_FTNCARCTL,
;  231        0631  1          DIR$_PRICARCTL,
;  232        0632  1          DIR$_NOCARCTL,
;  233        0633  1          DIR$_NOSPAN,
;  234        0634  1          DIR$_JNLENABLED,
;  235        0635  1          DIR$_NOJNLENB,
;  236        0636  1          DIR$_BIJNLNAME,
;  237        0637  1          DIR$_NOBIJNL,
;  238        0638  1          DIR$_AIJNLNAME,
;  239        0639  1          DIR$_NOAIJNL,
;  240        0640  1          DIR$_ATJNLNAME,
;  241        0641  1          DIR$_NOATJNL,
;  242        0642  1          DIR$_FILEPROT,
;  243        0643  1          DIR$_SYSPROT,
;  244        0644  1          DIR$_OWNPROT,
;  245        0645  1          DIR$_GRPPROT,
;  246          0646  1             DIR$_WORPROT,
;  247          0647  1             DIR$_FILEACL,
;  248          0648  1             DIR$_NOFILEACL,
;  249          0649  1             DIR$_TOTSIZALL,
;  250          0650  1             DIR$_TOTSIZ,
;  251          0651  1             DIR$_TOTNOSIZ,
;  252          0652  1             DIR$_GTOTSIZALL,
;  253          0653  1             DIR$_GTOTSIZALL1,
;  254          0654  1             DIR$_GTOTSIZ,
;  255          0655  1             DIR$_GTOTSIZ1,
;  256          0656  1             DIR$_GTOTNOSIZ,
;  257          0657  1             DIR$_GTOTNOSIZ1;
;  258          0658  1
;  259          0659  1 ! Assumptions made about various RMS structure constants.
;  260          0660  1
;  261          0661  1 $ASSUME (FAB$C_SEQ EQL DIR_C_SEQUENTIAL*16);
;  262          0662  1 $ASSUME (FAB$C_REL EQL DIR_C_RELATIVE*16);
;  263          0663  1 $ASSUME (FAB$C_IDX EQL DIR_C_INDEXED*16);
;  264          0664  1
;  265          0665  1 $ASSUME (FAB$C_FIX EQL DIR_C_FIXED);
;  266          0666  1 $ASSUME (FAB$C_VAR EQL DIR_C_VARIABLE);
;  267          0667  1 $ASSUME (FAB$C_VFC EQL DIR_C_VFC);
;  268          0668  1 $ASSUME (FAB$C_UDF EQL DIR_C_UNDEFINED);
;  269          0669  1 $ASSUME (FAB$C_STM EQL DIR_C_STREAM);
;  270          0670  1 $ASSUME (FAB$C_STMLF EQL DIR_C_STREAMLF);
;  271          0671  1 $ASSUME (FAB$C_STMCR EQL DIR_C_STREAMCR);
```

```
1 GLOBAL ROUTINE DIR$GET_INFO (FILE_FAB) =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !       Get information about a file
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$GET_INFO (ARG1)
1 !
1 ! INPUT PARAMETERS:
1 !       ARG1: FAB address
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1
1 !
1 ! SIDE EFFECTS:
1 !       none
1 !
1 !--
1
2 BEGIN
2
2 MAP
2       FILE_FAB        : REF $BBLOCK;          ! FAB address
2
2 LOCAL
2       FAB             : REF $BBLOCK,          ! Address of the FAB
2       NAM             : REF $BBLOCK,          ! NAMe block address
2       STATUS;                                 ! Local routine return status
2
2 EXTERNAL ROUTINE
2       DIR$FILE_ERROR;                         ! File error signaling routine
2
2 ! Assume success.
2
2 STATUS = SS$_NORMAL;
2
2 ! Set pointers to the necessary RMS data structures.
2
2 CH$MOVE (NAM$C_BLN, .FILE_FAB[FAB$L_NAM], INFO_NAM);   ! Copy NAMe block
2 NAM = INFO_NAM;                                         ! Set NAMe block address
2 FAB = .FILE_FAB;                                        ! Assume from $SEARCHed FAB
2
2 ! Check to see whether a legal file specification has been $SEARCHed.
2
2 IF NOT .(FAB[FAB$L_DEV])<$BITPOSITION (DEV$V_DIR), 1>
2 AND NOT .NAM[NAM$V_NODE]
2 THEN
```

```
3          BEGIN
3          FAB[FAB$L_STS] = SS$_NOTFILEDEV;
3          FAB[FAB$L_STV] = 0;
3          DIR$FILE_ERROR (DIR$_OPENIN, .FAB);
3          RETURN 1;
2          END;
2
2   IF .(FAB[FAB$L_DEV])<$BITPOSITION (DEV$V_FOR), 1>
2   THEN
3          BEGIN
3          FAB[FAB$L_STS] = SS$_DEVFOREIGN;
3          FAB[FAB$L_STV] = 0;
3          DIR$FILE_ERROR (DIR$_OPENIN, .FAB);
3          RETURN 1;
2          END;
2
2   ! Fill some of the initial portions of the display block.
2
2   CH$FILL (0, DIR_C_LENGTH, .DISPLAY_BLOCK);
2   DISPLAY_BLOCK[DIR_W_FID_NUM] = .NAM[NAM$W_FID_NUM];
2   DISPLAY_BLOCK[DIR_W_FID_SEQ] = .NAM[NAM$W_FID_SEQ];
2   DISPLAY_BLOCK[DIR_W_FID_RVN] = .NAM[NAM$W_FID_RVN];
2   DISPLAY_BLOCK[DIR_B_FNS] = .NAM[NAM$B_RSL];
2   CH$MOVE (.NAM[NAM$B_RSL], .NAM[NAM$L_RSA], DISPLAY_BLOCK[DIR_T_FILENAME]);
2   CH$MOVE (NAM$C_DVI, NAM[NAM$T_DVI], DISPLAY_BLOCK[DIR_T_DVI]);
2   DISPLAY_BLOCK[DIR_B_NODE] = .NAM[NAM$B_NODE];
2   DISPLAY_BLOCK[DIR_B_DEV] = .NAM[NAM$B_DEV];
2   DISPLAY_BLOCK[DIR_B_DIR] = .NAM[NAM$B_DIR];
2   DISPLAY_BLOCK[DIR_B_VER] = .NAM[NAM$B_VER];
2   DISPLAY_BLOCK[DIR_V_SQD] = .(FAB[FAB$L_DEV])<$BITPOSITION (DEV$V_SQD), 1>;
2
2   ! If it is not a network directory operation, it is necessary to change the
2   ! FAB address for the following RMS/ACP operations.
2
2   IF NOT .NAM[NAM$V_NODE] THEN FAB = INFO_FAB;
2
2   ! Get the requested information about the file and put it in the display
2   ! block.
2
2   IF .QUAL_FLAGS[DIR_V_NEED_FHC] OR .QUAL_FLAGS[DIR_V_NEED_DAT]
2   OR .QUAL_FLAGS[DIR_V_NEED_PRO] OR .QUAL_FLAGS[DIR_V_NEED_SUM]
2   OR .QUAL_FLAGS[DIR_V_NEED_JNL] OR .QUAL_FLAGS[DIR_V_QUAL_ACL]
2   THEN
3          BEGIN
3          IF .NAM[NAM$V_NODE]
3          THEN STATUS = DIR$RMS_FILL (.FAB, .NAM)
3          ELSE STATUS = DIR$ACP_FILL (.FAB, .NAM);
2          END;
2
2   DISPLAY_BLOCK[DIR_L_STATUS] = .STATUS;
2
2   ! See if this file matches the criteria specified by the common command
2   ! qualifiers.
2
2   FAB[FAB$W_IFI] = -1;                                   ! Since XAB info is there
2   STATUS = LIB$QUAL_FILE_MATCH (CMN_QUAL_CTX, .FAB, 0, LINE_DESC);
2   FAB[FAB$W_IFI] = 0;                                    ! Finished testing XAB info
```

```
;  387       0786  2 IF .STATUS EQL LIB$_FILFAIMAT
;  388       0787  2 THEN RETURN 1                                     ! Return if not a candidate
;  389       0788  2 ELSE IF .DISPLAY_BLOCK[DIR_L_STATUS]
;  390       0789  2      THEN DISPLAY_BLOCK[DIR_L_STATUS] = .STATUS;
;  391       0790  2
;  392       0791  2 ! Now that all of the specified common qualifiers have been checked, check
;  393       0792  2 ! the file size if necessary.
;  394       0793  2
;  395       0794  2 IF .QUAL_FLAGS[DIR_V_SELE_SIZE]
;  396       0795  3 AND .MIN_BLOCK GTR (IF .QUAL_FLAGS[DIR_V_SIZE_ALL] OR .QUAL_FLAGS[DIR_V_SIZE_ALLO]
;  397       0796  3                     THEN .DISPLAY_BLOCK[DIR_L_HIBLK]
;  398       0797  2                     ELSE .DISPLAY_BLOCK[DIR_L_EFBLK]) THEN RETURN 1;
;  399       0798  2 IF .QUAL_FLAGS[DIR_V_SELE_SIZE]
;  400       0799  3 AND .MAX_BLOCK LSS (IF .QUAL_FLAGS[DIR_V_SIZE_ALL] OR .QUAL_FLAGS[DIR_V_SIZE_ALLO]
;  401       0800  3                     THEN .DISPLAY_BLOCK[DIR_L_HIBLK]
;  402       0801  2                     ELSE .DISPLAY_BLOCK[DIR_L_EFBLK]) THEN RETURN 1;
;  403       0802  2
;  404       0803  2 ! The file is indeed a candidate for being displayed.  Proceed to do it.
;  405       0804  2
;  406       0805  2 QUAL_FLAGS[DIR_V_FILE_FOUND] = 1;                 ! Note that something was found
;  407       0806  2 IF .QUAL_FLAGS[DIR_V_QUAL_FULL]
;  408       0807  2 THEN DIR$SHOW_FULL ()
;  409       0808  2 ELSE DIR$SHOW_INFO ();
;  410       0809  2
;  411       0810  2 RETURN 1;
;  412       0811  2
;  413       0812  1 END;                                              ! End of routine DIR$GET_INFO


                                                   .TITLE  DISPLAY
                                                   .IDENT  \V04-000\

                                                   .PSECT  DIR$COMMON,NOEXE,  OVR,0

                                00000 QUAL_FLAGS:
                                                   .BLKB   8
                                00008 COLUMN_COUNT:
                                                   .BLKB   4
                                0000C COLUMN_INDEX:
                                                   .BLKB   4
                                00010 COLUMN_WIDTH:
                                                   .BLKB   4
                                00014 WORST_ERROR:
                                                   .BLKB   4
                                00018 CMN_QUAL_CTX:
                                                   .BLKB   4
                                0001C DISPLAY_BLOCK:
                                                   .BLKB   4
                                00020 CHANNEL:.BLKB        4
                                00024 DEVICE_NAME:
                                                   .BLKB   16
                                00034 LINE_DESC:
                                                   .BLKB   8
                                0003C LINE_BUFFER:
                                                   .BLKB   1024
                                0043C TOTAL_USED:
                                                   .BLKB   4
```

```
                   00440 TOTAL_ALLOC:
                                    .BLKB   4
                   00444 TOTAL_FILES:
                                    .BLKB   4
                   00448 GRAND_USED:
                                    .BLKB   4
                   0044C GRAND_ALLOC:
                                    .BLKB   4
                   00450 GRAND_FILES:
                                    .BLKB   4
                   00454 GRAND_DIRS:
                                    .BLKB   4
                   00458 PREV_DIR:
                                    .BLKB   255
                   00557            .BLKB   1
                   00558 PREV_DIR_LEN:
                                    .BLKB   4
                   0055C PREV_FILE:
                                    .BLKB   255
                   0065B            .BLKB   1
                   0065C PREV_FILE_LEN:
                                    .BLKB   4
                   00660 VERSION_COUNT:
                                    .BLKB   4
                   00664 VERSION_INDEX:
                                    .BLKB   4
                   00668 FIRST_XAB:
                                    .BLKB   4
              22   0066C INFO_XABJNL:
                                    .BYTE   34
              3C   0066D            .BYTE   60
            0000   0066E            .WORD   0
        00000000   00670            .LONG   0
            0000   00674            .WORD   0
            0000   00676            .WORD   0
              00   00678            .BYTE   0
              00   00679            .BYTE   0
            0000   0067A            .WORD   0
        00000000   0067C            .LONG   0
              00   00680            .BYTE   0
              00   00681            .BYTE   0
            0000   00682            .WORD   0
        00000000   00684            .LONG   0
              00   00688            .BYTE   0
              00   00689            .BYTE   0
            0000   0068A            .WORD   0
        00000000   0068C            .LONG   0
                   00690            .BLKB   24
              16   006A8 INFO_XABSUM:
                                    .BYTE   22
              0C   006A9            .BYTE   12
            0000   006AA            .WORD   0
        00000000   006AC            .LONG   0
              00   006B0            .BYTE   0
              00   006B1            .BYTE   0
            0000   006B2            .WORD   0
              13   006B4 INFO_XABPRO:
```

```
                                              .BYTE    19
              58  006B5                       .BYTE    88
            0000  006B6                       .WORD    0
        00000000  006B8                       .LONG    0
            FFFF  006BC                       .WORD    -1
              00  006BE                       .BYTE    0
              00  006BF                       .BYTE    0
      0000  0000  006C0                       .WORD    0, 0
              00  006C4                       .BYTE    0
              00  006C5                       .BYTE    0
            0000  006C6                       .WORD    0
        00000000  006C8                       .LONG    0
        00000000  006CC                       .LONG    0
            0000  006D0                       .WORD    0
            0000  006D2                       .WORD    0
        00000000  006D4                       .LONG    0
        00000000  006D8                       .LONG    0
                  006DC                       .BLKB    48
              12  0070C  INFO_XABDAT:
                                              .BYTE    18
              2C  0070D                       .BYTE    44
            0000  0070E                       .WORD    0
        00000000  00710                       .LONG    0
            0000  00714                       .WORD    0
            0000  00716                       .WORD    0
       00000000#  00718                       .LONG    0[2]
       00000000#  00720                       .LONG    0[2]
        00000000  00728                       .LONG    0
        00000000  0072C                       .LONG    0
       00000000#  00730                       .LONG    0[2]
              1D  00738  INFO_XABFHC:
                                              .BYTE    29
              2C  00739                       .BYTE    44
            0000  0073A                       .WORD    0
        00000000  0073C                       .LONG    0
       00000000#  00740                       .LONG    0[9]
              02  00764  INFO_NAM:
                                              .BYTE    2
              60  00765                       .BYTE    96
              00  00766                       .BYTE    0
              00  00767                       .BYTE    0
        00000000  00768                       .LONG    0
              00  0076C                       .BYTE    0
              00  0076D                       .BYTE    0
              00  0076E                       .BYTE    0
              00  0076F                       .BYTE    0
        00000000  00770                       .LONG    0
        00000000  00774                       .LONG    0
           0000#  00778                       .WORD    0[8]
           0000#  00788                       .WORD    0[3]
           0000#  0078E                       .WORD    0[3]
        00000000  00794                       .LONG    0
        00000000  00798                       .LONG    0
              00  0079C                       .BYTE    0
              00  0079D                       .BYTE    0
              00  0079E                       .BYTE    0
              00  0079F                       .BYTE    0
            00  007A0            .BYTE    0                                                      ;
            00  007A1            .BYTE    0                                                      ;
           00#  007A2            .BYTE    0[2]                                                   ;
      00000000  007A4            .LONG    0                                                      ;
      00000000  007A8            .LONG    0                                                      ;
      00000000  007AC            .LONG    0                                                      ;
      00000000  007B0            .LONG    0                                                      ;
      00000000  007B4            .LONG    0                                                      ;
      00000000  007B8            .LONG    0                                                      ;
     00000000#  007BC            .LONG    0[2]                                                   ;
            03  007C4  INFO_FAB:
                                 .BYTE    3                                                      ;
            50  007C5            .BYTE    80                                                     ;
          0000  007C6            .WORD    0                                                      ;
      01000000  007C8            .LONG    16777216                                               ;
      00000000  007CC            .LONG    0                                                      ;
      00000000  007D0            .LONG    0                                                      ;
      00000000  007D4            .LONG    0                                                      ;
          0000  007D8            .WORD    0                                                      ;
            02  007DA            .BYTE    2                                                      ;
            43  007DB            .BYTE    67                                                     ;
      00000000  007DC            .LONG    0                                                      ;
            00  007E0            .BYTE    0                                                      ;
            00  007E1            .BYTE    0                                                      ;
            00  007E2            .BYTE    0                                                      ;
            02  007E3            .BYTE    2                                                      ;
      00000000  007E4            .LONG    0                                                      ;
      00000000  007E8            .LONG    0                                                      ;
     00000000'  007EC            .ADDRESS INFO_NAM                                               ;
      00000000  007F0            .LONG    0                                                      ;
      00000000  007F4            .LONG    0                                                      ;
            00  007F8            .BYTE    0                                                      ;
            00  007F9            .BYTE    0                                                      ;
          0000  007FA            .WORD    0                                                      ;
      00000000  007FC            .LONG    0                                                      ;
          0000  00800            .WORD    0                                                      ;
            00  00802            .BYTE    0                                                      ;
            00  00803            .BYTE    0                                                      ;
      00000000  00804            .LONG    0                                                      ;
      00000000  00808            .LONG    0                                                      ;
          0000  0080C            .WORD    0                                                      ;
            00  0080E            .BYTE    0                                                      ;
            00  0080F            .BYTE    0                                                      ;
      00000000  00810            .LONG    0                                                      ;
                00814  DISPLAY_WIDTH:
                                 .BLKB    4
                00818  FILENAME_WIDTH:
                                 .BLKB    4
                0081C  OWNER_WIDTH:
                                 .BLKB    4
                00820  SIZE_WIDTH:
                                 .BLKB    4
                00824  MIN_BLOCK:
                                 .BLKB    4
                00828  MAX_BLOCK:
                                 .BLKB    4
                0082C  ACL_LENGTH:
```

```
                                          .BLKB    4
                      00830 OUTPUT_RAB:
                                          .BLKB    68

                                          .PSECT   $PLIT$,NOWRT,NOEXE,2

  44  45  57  52      00000 P.AAB:        .ASCII   \RWED\                                        ;
          00000004    00004 P.AAA:        .LONG    4                                             ;
          00000000'   00008               .ADDRESS P.AAB                                         ;
      44  45  57      0000C P.AAD:        .ASCII   \WED\                                         ;
                      0000F               .BLKB    1
          00000003    00010 P.AAC:        .LONG    3                                             ;
          00000000'   00014               .ADDRESS P.AAD                                         ;
      44  45  52      00018 P.AAF:        .ASCII   \RED\                                         ;
                      0001B               .BLKB    1
          00000003    0001C P.AAE:        .LONG    3                                             ;
          00000000'   00020               .ADDRESS P.AAF                                         ;
          44  45      00024 P.AAH:        .ASCII   \ED\                                          ;
                      00026               .BLKB    2
          00000002    00028 P.AAG:        .LONG    2                                             ;
          00000000'   0002C               .ADDRESS P.AAH                                         ;
      44  57  52      00030 P.AAJ:        .ASCII   \RWD\                                         ;
                      00033               .BLKB    1
          00000003    00034 P.AAI:        .LONG    3                                             ;
          00000000'   00038               .ADDRESS P.AAJ                                         ;
          44  57      0003C P.AAL:        .ASCII   \WD\                                          ;
                      0003E               .BLKB    2
          00000002    00040 P.AAK:        .LONG    2                                             ;
          00000000'   00044               .ADDRESS P.AAL                                         ;
          44  52      00048 P.AAN:        .ASCII   \RD\                                          ;
                      0004A               .BLKB    2
          00000002    0004C P.AAM:        .LONG    2                                             ;
          00000000'   00050               .ADDRESS P.AAN                                         ;
              44      00054 P.AAP:        .ASCII   \D\                                           ;
                      00055               .BLKB    3
          00000001    00058 P.AAO:        .LONG    1                                             ;
          00000000'   0005C               .ADDRESS P.AAP                                         ;
      45  57  52      00060 P.AAR:        .ASCII   \RWE\                                         ;
                      00063               .BLKB    1
          00000003    00064 P.AAQ:        .LONG    3                                             ;
          00000000'   00068               .ADDRESS P.AAR                                         ;
          45  57      0006C P.AAT:        .ASCII   \WE\                                          ;
                      0006E               .BLKB    2
          00000002    00070 P.AAS:        .LONG    2                                             ;
          00000000'   00074               .ADDRESS P.AAT                                         ;
          45  52      00078 P.AAV:        .ASCII   \RE\                                          ;
                      0007A               .BLKB    2
          00000002    0007C P.AAU:        .LONG    2                                             ;
          00000000'   00080               .ADDRESS P.AAV                                         ;
              45      00084 P.AAX:        .ASCII   \E\                                           ;
                      00085               .BLKB    3
          00000001    00088 P.AAW:        .LONG    1                                             ;
          00000000'   0008C               .ADDRESS P.AAX                                         ;
          57  52      00090 P.AAZ:        .ASCII   \RW\                                          ;
                      00092               .BLKB    2
          00000002    00094 P.AAY:        .LONG    2                                             ;
          00000000'   00098               .ADDRESS P.AAZ                                         ;
```

```
                                              57  0009C P.ABB:   .ASCII   \W\                                          ;
                                                  0009D          .BLKB    3
                                        00000001  000A0 P.ABA:   .LONG    1                                            ;
                                        00000000' 000A4          .ADDRESS P.ABB                                        ;
                                              52  000A8 P.ABD:   .ASCII   \R\                                          ;
                                                  000A9          .BLKB    3
                                        00000001  000AC P.ABC:   .LONG    1                                            ;
                                        00000000' 000B0          .ADDRESS P.ABD                                        ;
                                                  000B4 P.ABF:   .BLKB    0                                            ;
                                        00000000  000B4 P.ABE:   .LONG    0                                            ;
                                        00000000' 000B8          .ADDRESS P.ABF                                        ;

                                                                 .PSECT   $OWN$,NOEXE,2

00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00000 PROT_TABLE:
                                                                 .ADDRESS P.AAA, P.AAC, P.AAE, P.AAG, P.AAI, -         ;
00000000' 00000000' 00000000' 00000000' 00000000' 00000000' 00018         P.AAK, P.AAM, P.AAO, P.AAQ, P.AAS, P.AAU, -  ;
                    00000000' 00000000' 00000000' 00000000' 00030         P.AAW, P.AAY, P.ABA, P.ABC, P.ABE            ;

                                                                 .EXTRN   LIB$GET_VM, LIB$QUAL_FILE_MATCH
                                                                 .EXTRN   LIB$_FILFAIMAT, DIR$_NEWDIRECT
                                                                 .EXTRN   DIR$_NOBRFILEID
                                                                 .EXTRN   DIR$_NOBRCREDAT
                                                                 .EXTRN   DIR$_NOBRREVDAT
                                                                 .EXTRN   DIR$_NOBREXPDAT
                                                                 .EXTRN   DIR$_NOBRBAKDAT
                                                                 .EXTRN   DIR$_FULLFILEID
                                                                 .EXTRN   DIR$_NOFUFILEID
                                                                 .EXTRN   DIR$_FULLSIZE, DIR$_FULLOWNERID
                                                                 .EXTRN   DIR$_FULLOWNERUIC
                                                                 .EXTRN   DIR$_NOFUCREDAT
                                                                 .EXTRN   DIR$_FULLCREDAT
                                                                 .EXTRN   DIR$_NOFUREVDAT
                                                                 .EXTRN   DIR$_FULLREVDAT
                                                                 .EXTRN   DIR$_NOFUEXPDAT
                                                                 .EXTRN   DIR$_FULLEXPDAT
                                                                 .EXTRN   DIR$_NOFUBAKDAT
                                                                 .EXTRN   DIR$_FULLBAKDAT
                                                                 .EXTRN   DIR$_FILEORG, DIR$_FILORGSEQ
                                                                 .EXTRN   DIR$_FILORGREL, DIR$_FILORGIDX
                                                                 .EXTRN   DIR$_IDXPROLOG, DIR$_IDXAREA
                                                                 .EXTRN   DIR$_FILORGUNK, DIR$_FILEATTR
                                                                 .EXTRN   DIR$_MAXBKTSIZ, DIR$_BUCKETSIZ
                                                                 .EXTRN   DIR$_GBLBUFCNT, DIR$_VERLIMIT
                                                                 .EXTRN   DIR$_NOVERLIMIT
                                                                 .EXTRN   DIR$_FILATRCTG, DIR$_FILATRCTB
                                                                 .EXTRN   DIR$_FILATRLCK, DIR$_FILATRNOBAK
                                                                 .EXTRN   DIR$_FILATRWRBAK
                                                                 .EXTRN   DIR$_FILATRRDCHK
                                                                 .EXTRN   DIR$_FILATRWRCHK
                                                                 .EXTRN   DIR$_FILATRBADACL
                                                                 .EXTRN   DIR$_FILATRDIR, DIR$_FILATRBADBLK
                                                                 .EXTRN   DIR$_FILATRNOCHRG
                                                                 .EXTRN   DIR$_FILATRERASE
                                                                 .EXTRN   DIR$_RECFORMAT, DIR$_RECFMTFIX
                                                                 .EXTRN   DIR$_RECFMTVAR, DIR$_RECFMTVFC
                                                                 .EXTRN   DIR$_RECFMTUDF, DIR$_RECFMTSTM
```

```
                                                                     .EXTRN  DIR$_RECFMTSTMLF
                                                                     .EXTRN  DIR$_RECFMTSTMCR
                                                                     .EXTRN  DIR$_RECFMTUNK, DIR$_MAXRECSIZ
                                                                     .EXTRN  DIR$_RECATTR, DIR$_NORECATTR
                                                                     .EXTRN  DIR$_CRCARCTL, DIR$_FTNCARCTL
                                                                     .EXTRN  DIR$_PRICARCTL, DIR$_NOCARCTL
                                                                     .EXTRN  DIR$_NOSPAN, DIR$_JNLENABLED
                                                                     .EXTRN  DIR$_NOJNLENB, DIR$_BIJNLNAME
                                                                     .EXTRN  DIR$_NOBIJNL, DIR$_AIJNLNAME
                                                                     .EXTRN  DIR$_NOAIJNL, DIR$_ATJNLNAME
                                                                     .EXTRN  DIR$_NOATJNL, DIR$_FILEPROT
                                                                     .EXTRN  DIR$_SYSPROT, DIR$_OWNPROT
                                                                     .EXTRN  DIR$_GRPPROT, DIR$_WORPROT
                                                                     .EXTRN  DIR$_FILEACL, DIR$_NOFILEACL
                                                                     .EXTRN  DIR$_TOTSIZALL, DIR$_TOTSIZ
                                                                     .EXTRN  DIR$_TOTNOSIZ, DIR$_GTOTSIZALL
                                                                     .EXTRN  DIR$_GTOTSIZALL1
                                                                     .EXTRN  DIR$_GTOTSIZ, DIR$_GTOTSIZ1
                                                                     .EXTRN  DIR$_GTOTNOSIZ, DIR$_GTOTNOSIZ1
                                                                     .EXTRN  DIR$FILE_ERROR

                                                                     .PSECT  $CODE$,NOWRT,2

                                                    07FC 00000       .ENTRY  DIR$GET_INFO, Save R2,R3,R4,R5,R6,R7,R8,R9,-; 0672
                                                                             R10                                         ;
                                 5A  00000000'    EF  9E 00002       MOVAB   QUAL_FLAGS, R10                             ;
                                 59               01  D0 00009       MOVL    #1, STATUS                                  ; 0716
                                 56         04    AC  D0 0000C       MOVL    FILE_FAB, R6                                ; 0720
            0764    CA     28    B6       0060    8F  28 00010       MOVC3   #96, @40(R6), INFO_NAM                      ;
                                 57       0764    CA  9E 00019       MOVAB   INFO_NAM, NAM                               ; 0721
                                 58               56  D0 0001E       MOVL    R6, FAB                                     ; 0722
                    0D     40    A8               03  E0 00021       BBS     #3, 64(FAB), 1$                             ; 0726
                    08     36    A7               01  E0 00026       BBS     #1, 54(NAM), 1$                             ; 0727
                           08    A8       01CC    8F  3C 0002B       MOVZWL  #460, 8(FAB)                                ; 0730
                                                  09  11 00031       BRB     2$                                          ; 0731
                                 18         43    A8  E9 00033 1$:   BLBC    67(FAB), 3$                                 ; 0736
                           08    A8         64    8F  9A 00037       MOVZBL  #100, 8(FAB)                                ; 0739
                                            0C    A8  D4 0003C 2$:   CLRL    12(FAB)                                     ; 0740
                                                  58  DD 0003F       PUSHL   FAB                                         ; 0741
                                      0079109A    8F  DD 00041       PUSHL   #7934106                                    ;
                        0000G    CF               02  FB 00047       CALLS   #2, DIR$FILE_ERROR                          ;
                                                011D  31 0004C       BRW     18$                                         ; 0742
                                 56         1C    AA  D0 0004F 3$:   MOVL    DISPLAY_BLOCK, R6                           ; 0747
01CB    8F          00           6E               00  2C 00053       MOVC5   #0, (SP), #0, #459, (R6)                    ;
                                                  66     0005A                                                           ;
                         0123    C6         24    A7  D0 0005B       MOVL    36(NAM), 291(R6)                            ; 0748
                         0127    C6         28    A7  B0 00061       MOVW    40(NAM), 295(R6)                            ; 0750
                           18    A6         03    A7  90 00067       MOVB    3(NAM), 24(R6)                              ; 0751
                                 50         03    A7  9A 0006C       MOVZBL  3(NAM), R0                                  ; 0752
              19    A6     04    B7               50  28 00070       MOVC3   R0, @4(NAM), 25(R6)                         ;
              08    A6     14    A7               10  28 00076       MOVC3   #16, 20(NAM), 8(R6)                         ; 0753
                         0119    C6         38    A7  B0 0007C       MOVW    56(NAM), 281(R6)                            ; 0754
                         011B    C6         3A    A7  90 00082       MOVB    58(NAM), 283(R6)                            ; 0756
                         011C    C6         3D    A7  90 00088       MOVB    61(NAM), 284(R6)                            ; 0757
        50    40    A8           01               05  EF 0008E       EXTZV   #5, #1, 64(FAB), R0                         ; 0758
  04    A6          01           01               50  F0 00094       INSV    R0, #1, #1, 4(R6)                           ;
                    05     36    A7               01  E0 0009A       BBS     #1, 54(NAM), 4$                             ; 0763
```

```
                 58      07C4   CA  9E 0009F          MOVAB   INFO_FAB, FAB                        ;
                 17        04   AA  E8 000A4  4$:     BLBS    QUAL_FLAGS+4, 5$                     ; 0768
      12    04   AA             01  E0 000A8          BBS     #1, QUAL_FLAGS+4, 5$                 ;
      0D    04   AA             02  E0 000AD          BBS     #2, QUAL_FLAGS+4, 5$                 ; 0769
      08    04   AA             03  E0 000B2          BBS     #3, QUAL_FLAGS+4, 5$                 ;
      03    04   AA             04  E0 000B7          BBS     #4, QUAL_FLAGS+4, 5$                 ; 0770
                 1C             6A  E9 000BC          BLBC    QUAL_FLAGS, 8$                       ;
      0B    36   A7             01  E1 000BF  5$:     BBC     #1, 54(NAM), 6$                      ; 0774
                                57  DD 000C4          PUSHL   NAM                                  ;
                                58  DD 000C6          PUSHL   FAB                                  ;
         0000V   CF             02  FB 000C8          CALLS   #2, DIR$RMS_FILL                     ;
                                09  11 000CD          BRB     7$                                   ;
                                57  DD 000CF  6$:     PUSHL   NAM                                  ; 0775
                                58  DD 000D1          PUSHL   FAB                                  ;
         0000V   CF             02  FB 000D3          CALLS   #2, DIR$ACP_FILL                     ;
                 59             50  D0 000D8  7$:     MOVL    R0, STATUS                           ;
            1C   BA             59  D0 000DB  8$:     MOVL    STATUS, @DISPLAY_BLOCK               ; 0778
            02   A8             01  AE 000DF          MNEGW   #1, 2(FAB)                           ; 0783
                           34   AA  9F 000E3          PUSHAB  LINE_DESC                            ; 0784
                                7E  D4 000E6          CLRL    -(SP)                                ;
                                58  DD 000E8          PUSHL   FAB                                  ;
                           18   AA  9F 000EA          PUSHAB  CMN_QUAL_CTX                         ;
     00000000G   00             04  FB 000ED          CALLS   #4, LIB$QUAL_FILE_MATCH              ;
                 59             50  D0 000F4          MOVL    R0, STATUS                           ;
                           02   A8  B4 000F7          CLRW    2(FAB)                               ; 0785
     00000000G   8F             59  D1 000FA          CMPL    STATUS, #LIB$_FILFAIMAT              ; 0786
                                69  13 00101          BEQL    18$                                  ;
                 04        1C   BA  E9 00103          BLBC    @DISPLAY_BLOCK, 9$                   ; 0788
            1C   BA             59  D0 00107          MOVL    STATUS, @DISPLAY_BLOCK               ; 0789
      47    02   AA             02  E1 0010B  9$:     BBC     #2, QUAL_FLAGS+2, 16$                ; 0794
                 50        1C   AA  D0 00110          MOVL    DISPLAY_BLOCK, R0                    ; 0796
      05    02   AA             04  E0 00114          BBS     #4, QUAL_FLAGS+2, 10$                ; 0795
      07    02   AA             05  E1 00119          BBC     #5, QUAL_FLAGS+2, 11$                ;
                 50      012D   C0  D0 0011E  10$:    MOVL    301(R0), R0                          ; 0796
                                05  11 00123          BRB     12$                                  ;
                 50      0131   C0  D0 00125  11$:    MOVL    305(R0), R0                          ; 0797
                 50      0824   CA  D1 0012A  12$:    CMPL    MIN_BLOCK, R0                        ; 0795
                                3B  14 0012F          BGTR    18$                                  ;
      21    02   AA             02  E1 00131          BBC     #2, QUAL_FLAGS+2, 16$                ; 0798
                 50        1C   AA  D0 00136          MOVL    DISPLAY_BLOCK, R0                    ; 0800
      05    02   AA             04  E0 0013A          BBS     #4, QUAL_FLAGS+2, 13$                ; 0799
      07    02   AA             05  E1 0013F          BBC     #5, QUAL_FLAGS+2, 14$                ;
                 50      012D   C0  D0 00144  13$:    MOVL    301(R0), R0                          ; 0800
                                05  11 00149          BRB     15$                                  ;
                 50      0131   C0  D0 0014B  14$:    MOVL    305(R0), R0                          ; 0801
                 50      0828   CA  D1 00150  15$:    CMPL    MAX_BLOCK, R0                        ; 0799
                                15  19 00155          BLSS    18$                                  ;
            04   AA             20  88 00157  16$:    BISB2   #32, QUAL_FLAGS+4                    ; 0805
      07    01   AA             01  E1 0015B          BBC     #1, QUAL_FLAGS+1, 17$                ; 0806
         0000V   CF             00  FB 00160          CALLS   #0, DIR$SHOW_FULL                    ; 0807
                                05  11 00165          BRB     18$                                  ;
         0000V   CF             00  FB 00167  17$:    CALLS   #0, DIR$SHOW_INFO                    ; 0808
                 50             01  D0 0016C  18$:    MOVL    #1, R0                               ; 0810
                                    04 0016F          RET                                          ; 0812

; Routine Size:  368 bytes,    Routine Base:  $CODE$ + 0000
```

```
1 ROUTINE DIR$RMS_FILL (FILE_FAB, FILE_NAM) =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       This routine fills in the information requested from RMS.
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$RMS_FILL (ARG1, ARG2)
1 !
1 ! INPUT PARAMETERS:
1 !       ARG1: address of the FAB
1 !       ARG2: address of the NAMe block
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 !
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1 if successful
1 !       error code otherwise
1 !
1 ! SIDE EFFECTS:
1 !       The necessary information is collected and put into the display
1 !       information block.
1 !
1 !--
1
2 BEGIN
2
2 MAP
2       FILE_FAB        : REF $BBLOCK,          ! Address of the FAB
2       FILE_NAM        : REF $BBLOCK;          ! Address of the NAMe block
2
2 LOCAL
2       STATUS;                                 ! Routine exit status
2
2 ! Set up for the RMS OPEN.
2
2 IF NOT .FILE_NAM[NAM$V_WILDCARD]
3 THEN STATUS = $SEARCH (FAB = .FILE_FAB)
2 ELSE STATUS = .FILE_FAB[FAB$L_STS];
2
2 ! If the STS is success and the STV is in error, set the return status to the
2 ! STV value.  This only happens on network directory operations, and is the
2 ! method by which RMS/FAL returns back any errors that occurred while
2 ! attempting to obtain the file attributes.
2
2 IF .FILE_FAB[FAB$L_STS] AND .FILE_FAB[FAB$L_STV] NEQ 0
2 THEN IF NOT .FILE_FAB[FAB$L_STV]
2 THEN STATUS = .FILE_FAB[FAB$L_STV];
```

```
;  472          0870  2
;  473          0871  2 IF .STATUS EQL RMS$_NOJ THEN STATUS = RMS$_NORMAL;
;  474          0872  2
;  475          0873  2 ! Now fill the display block with the information gathered by RMS.
;  476          0874  2
;  477          0875  2 DISPLAY_BLOCK[DIR_V_CONTIG] = .FILE_FAB[FAB$V_CTG];
;  478          0876  2 DISPLAY_BLOCK[DIR_V_CONTIGB] = .FILE_FAB[FAB$V_CBT];
;  479          0877  2 DISPLAY_BLOCK[DIR_V_SQD] = .(FILE_FAB[FAB$L_DEV])<$BITPOSITION (DEV$V_SQD), 1>;
;  480          0878  2 DISPLAY_BLOCK[DIR_L_HIBLK] = .FILE_FAB[FAB$L_ALQ];
;  481          0879  2 DISPLAY_BLOCK[DIR_W_DEFEXT] = .FILE_FAB[FAB$W_DEQ];
;  482          0880  2 DISPLAY_BLOCK[DIR_V_RTYPE] = .FILE_FAB[FAB$B_RFM];
;  483          0881  2 DISPLAY_BLOCK[DIR_V_FILEORG] = .FICE_FAB[FAB$B_ORG] / 16;
;  484          0882  2 IF (DISPLAY_BLOCK[DIR_B_VFCSIZE] = .FILE_FAB[FAB$B_FSZ]) EQL 0
;  485          0883  2 THEN DISPLAY_BLOCK[DIR_B_VFCSIZE] = 2;
;  486          0884  2 DISPLAY_BLOCK[DIR_B_RATTRIB] = .FILE_FAB[FAB$B_RAT];
;  487          0885  2 DISPLAY_BLOCK[DIR_B_BKTSIZE] = .FILE_FAB[FAB$B_BKS];
;  488          0886  2 DISPLAY_BLOCK[DIR_W_RSIZE] = .FILE_FAB[FAB$W_MRS];
;  489          0887  2 DISPLAY_BLOCK[DIR_W_GBC] = .FILE_FAB[FAB$W_GBC];
;  490          0888  2
;  491          0889  2 DISPLAY_BLOCK[DIR_W_VERLIMIT] = .INFO_XABFHC[XAB$W_VERLIMIT];
;  492          0890  2 IF (DISPLAY_BLOCK[DIR_L_EFBLK] = .INFO_XABFHC[XAB$L_EBK]) EQL 0
;  493          0891  2 THEN DISPLAY_BLOCK[DIR_L_EFBLK] = .FILE_FAB[FAB$L_ALQ]
;  494          0892  2 ELSE IF .INFO_XABFHC[XAB$W_FFB] EQL 0
;  495          0893  2 THEN DISPLAY_BLOCK[DIR_L_EFBLK] = .DISPLAY_BLOCK[DIR_L_EFBLK] - 1;
;  496          0894  2
;  497          0895  2 DISPLAY_BLOCK[DIR_L_CDT0] = .INFO_XABDAT[XAB$L_CDT0];
;  498          0896  2 DISPLAY_BLOCK[DIR_L_CDT4] = .INFO_XABDAT[XAB$L_CDT4];
;  499          0897  2 DISPLAY_BLOCK[DIR_L_RDT0] = .INFO_XABDAT[XAB$L_RDT0];
;  500          0898  2 DISPLAY_BLOCK[DIR_L_RDT4] = .INFO_XABDAT[XAB$L_RDT4];
;  501          0899  2 DISPLAY_BLOCK[DIR_L_EDT0] = .INFO_XABDAT[XAB$L_EDT0];
;  502          0900  2 DISPLAY_BLOCK[DIR_L_EDT4] = .INFO_XABDAT[XAB$L_EDT4];
;  503          0901  2 DISPLAY_BLOCK[DIR_L_BDT0] = .INFO_XABDAT[XAB$L_BDT0];
;  504          0902  2 DISPLAY_BLOCK[DIR_L_BDT4] = .INFO_XABDAT[XAB$L_BDT4];
;  505          0903  2 DISPLAY_BLOCK[DIR_W_REVISION] = .INFO_XABDAT[XAB$W_RVN];
;  506          0904  2
;  507          0905  2 DISPLAY_BLOCK[DIR_L_FILEOWNER] = .INFO_XABPRO[XAB$L_UIC];
;  508          0906  2 DISPLAY_BLOCK[DIR_W_FILEPROT] = .INFO_XABPRO[XAB$W_PRO];
;  509          0907  2
;  510          0908  2 DISPLAY_BLOCK[DIR_L_MRN] = .FILE_FAB[FAB$L_MRN];
;  511          0909  2 DISPLAY_BLOCK[DIR_B_NOKEYS] = .INFO_XABSUM[XAB$B_NOK];
;  512          0910  2 DISPLAY_BLOCK[DIR_W_PVN] = .INFO_XABSUM[XAB$W_PVN];
;  513          0911  2 DISPLAY_BLOCK[DIR_B_NOAREAS] = .INFO_XABSUM[XAB$B_NOA];
;  514          0912  2
;  515          0913  2 RETURN .STATUS;
;  516          0914  2
;  517          0915  1 END;                                                  ! End of routine DIR$RMS_FILL


                                                                       .EXTRN  SYS$SEARCH

                                               001C 00000 DIR$RMS_FILL:
                                                                       .WORD   Save R2,R3,R4                                 ; 0813
                            54 00000000'  EF  9E 00002                 MOVAB   DISPLAY_BLOCK, R4                             ;
                            52        04  AC  D0 00009                 MOVL    FILE_FAB, R2                                  ; 0859
                            50        08  AC  D0 0000D                 MOVL    FILE_NAM, R0                                  ; 0858
                            0B        35  A0  E8 00011                 BLBS    53(R0), 1$                                    ;
```

```
                                                                    52 DD 00015         PUSHL   R2                                      ; 0859
                                         00000000G  00                01 FB 00017         CALLS   #1, SYS$SEARCH                          ;
                                                                    04 11 0001E         BRB     2$                                      ;
                                                    50          08  A2 D0 00020 1$:     MOVL    8(R2), STATUS                           ; 0860
                                                    0D          08  A2 E9 00024 2$:     BLBC    8(R2), 3$                               ; 0867
                                                                0C  A2 D5 00028         TSTL    12(R2)                                  ;
                                                                    08 13 0002B         BEQL    3$                                      ;
                                                    04          0C  A2 E8 0002D         BLBS    12(R2), 3$                              ; 0868
                                                    50          0C  A2 D0 00031         MOVL    12(R2), STATUS                          ; 0869
                                          0001C154  8F              50 D1 00035 3$:     CMPL    STATUS, #115028                         ; 0871
                                                                    07 12 0003C         BNEQ    4$                                      ;
                                                    50    00010001  8F D0 0003E         MOVL    #65537, STATUS                          ;
                                                    51              64 D0 00045 4$:     MOVL    DISPLAY_BLOCK, R1                       ; 0875
              53         06   A2                    01              04 EF 00048         EXTZV   #4, #1, 6(R2), R3                       ;
        0149  C1              01                    07              53 F0 0004E         INSV    R3, #7, #1, 329(R1)                     ;
              53         06   A2                    01              05 EF 00055         EXTZV   #5, #1, 6(R2), R3                       ; 0876
        0149  C1              05                    05              53 F0 0005B         INSV    R3, #5, #1, 329(R1)                     ;
              53         40   A2                    01              05 EF 00062         EXTZV   #5, #1, 64(R2), R3                      ; 0877
          04  A1              01                    01              53 F0 00068         INSV    R3, #1, #1, 4(R1)                       ;
                                              012D  C1          10  A2 D0 0006E         MOVL    16(R2), 301(R1)                         ; 0878
                                              013B  C1          14  A2 B0 00074         MOVW    20(R2), 315(R1)                         ; 0879
        0129  C1              04                    00          1F  A2 F0 0007A         INSV    31(R2), #0, #4, 297(R1)                 ; 0880
                                                    53          1D  A2 9A 00082         MOVZBL  29(R2), R3                              ; 0881
                                                    53              10 C6 00086         DIVL2   #16, R3                                 ;
        0129  C1              04                    04              53 F0 00089         INSV    R3, #4, #4, 297(R1)                     ;
                                              0138  C1          3F  A2 90 00090         MOVB    63(R2), 312(R1)                         ; 0882
                                                                    05 12 00096         BNEQ    5$                                      ;
                                              0138  C1              02 90 00098         MOVB    #2, 312(R1)                             ; 0883
                                              012A  C1          1E  A2 90 0009D 5$:     MOVB    30(R2), 298(R1)                         ; 0884
                                              0137  C1          3E  A2 90 000A3         MOVB    62(R2), 311(R1)                         ; 0885
                                              012B  C1          36  A2 B0 000A9         MOVW    54(R2), 299(R1)                         ; 0886
                                              013D  C1          48  A2 B0 000AF         MOVW    72(R2), 317(R1)                         ; 0887
                                              011D  C1        0742  C4 B0 000B5         MOVW    INFO_XABFHC+38, 285(R1)                 ; 0889
                                                    53        0131  C1 9E 000BC         MOVAB   305(R1), R3                             ; 0890
                                                    63        072C  C4 D0 000C1         MOVL    INFO_XABFHC+16, (R3)                    ;
                                                                    06 12 000C6         BNEQ    6$                                      ;
                                                    63          10  A2 D0 000C8         MOVL    16(R2), (R3)                            ; 0891
                                                                    08 11 000CC         BRB     7$                                      ;
                                                              0730  C4 B5 000CE 6$:     TSTW    INFO_XABFHC+20                          ; 0892
                                                                    02 12 000D2         BNEQ    7$                                      ;
                                                                    63 D7 000D4         DECL    (R3)                                    ; 0893
                                              0170  C1        0704  C4 7D 000D6 7$:     MOVQ    INFO_XABDAT+20, 368(R1)                 ; 0895
                                              0178  C1        06FC  C4 7D 000DD         MOVQ    INFO_XABDAT+12, 376(R1)                 ; 0897
                                              0180  C1        070C  C4 7D 000E4         MOVQ    INFO_XABDAT+28, 384(R1)                 ; 0899
                                              0188  C1        0714  C4 7D 000EB         MOVQ    INFO_XABDAT+36, 392(R1)                 ; 0901
                                              016E  C1        06F8  C4 B0 000F2         MOVW    INFO_XABDAT+8, 366(R1)                  ; 0903
                                              014E  C1        06A4  C4 D0 000F9         MOVL    INFO_XABPRO+12, 334(R1)                 ; 0905
                                              0152  C1        06A0  C4 B0 00100         MOVW    INFO_XABPRO+8, 338(R1)                  ; 0906
                                              0190  C1          38  A2 D0 00107         MOVL    56(R2), 400(R1)                         ; 0908
                                              0194  C1        0694  C4 D0 0010D         MOVL    INFO_XABSUM+8, 404(R1)                  ; 0911
                                                                       04 00114         RET                                             ; 0915

; Routine Size:  277 bytes,    Routine Base:  $CODE$ + 0170
```

```
1 ROUTINE DIR$ACP_FILL (FILE_FAB, FILE_NAM) =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       This routine gathers the requested information about the file from
1 !       the ACP.
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$ACP_FILL (ARG1, ARG2))
1 !
1 ! INPUT PARAMETERS:
1 !       ARG1: address of the FAB
1 !       ARG2: address of the NAMe block
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 !
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1 if successful
1 !       error code otherwise
1 !
1 ! SIDE EFFECTS:
1 !       The information display block if filled in with the necessary
1 !       information requested.
1 !
1 !--
1
2 BEGIN
2
2 MAP
2       FILE_FAB        : REF $BBLOCK,              ! Address of the FAB
2       FILE_NAM        : REF $BBLOCK;              ! Address of the NAMe block
2
2 LITERAL
2       NUM_ATTR        = 20;                       ! Max number of ACP attributes
2
2 LOCAL
2       DEVICE_DESC     : $BBLOCK [DSC$C_S_BLN],            ! Device name descriptor
2       FILE_DESC       : $BBLOCK [DSC$C_S_BLN],            ! File name descriptor
2       FIB_DESC        : $BBLOCK [DSC$C_S_BLN],            ! FIB descriptor
2       FIB             : $BBLOCK [FIB$C_LENGTH],           ! FIB Storage
2       ATTRIBUTES      : BLOCKVECTOR [NUM_ATTR, 8, BYTE],      ! Attribute descrs
2       ACP_STATISTICS  : $BBLOCK [ATR$S_STATBLK],          ! ACP statistics block
2       AI_JNLACE       : $BBLOCK [ATR$S_FNDACETYP],        ! AI journal ACE
2       BI_JNLACE       : $BBLOCK [ATR$S_FNDACETYP],        ! BI journal ACE
2       AT_JNLACE       : $BBLOCK [ATR$S_FNDACETYP],        ! AT journal ACE
2       IOSTS           : VECTOR [4, WORD],         ! I/O status block
2       STATUS;                                     ! Local routine exit status
2
```

```
  2 ! If necessary, first assign a channel to the device.
  2
  2 IF CH$NEQ (NAM$C_DVI, FILE_NAM[NAM$T_DVI], NAM$C_DVI, DEVICE_NAME, 0)
  2 OR .CHANNEL EQL 0
  2 THEN
  3     BEGIN
  3     IF .CHANNEL NEQ 0 THEN $DASSGN (CHAN = .CHANNEL);
  3     CH$MOVE (NAM$C_DVI, FILE_NAM[NAM$T_DVI], DEVICE_NAME);
  3     CH$FILL (0, DSC$C_S_BLN, DEVICE_DESC);
  3     DEVICE_DESC[DSC$W_LENGTH] = .DEVICE_NAME[0];
  3     DEVICE_DESC[DSC$A_POINTER] = DEVICE_NAME[1];
P 3     STATUS = $ASSIGN (DEVNAM = DEVICE_DESC,
  3                       CHAN = CHANNEL);
  3     IF NOT .STATUS
  3     THEN
  4         BEGIN
  4         CH$FILL (0, NAM$C_DVI, DEVICE_NAME);
  4         CHANNEL = 0;
  4         RETURN .STATUS;
  3         END;
  2     END;
  2
  2 ! Build the ACP attribute list for the needed information.
  2
  2 CH$FILL (0, NUM_ATTR*8, ATTRIBUTES);
  2 ATTRIBUTES [0, ATR$W_TYPE] = ATR$C_RECATTR;
  2 ATTRIBUTES [0, ATR$W_SIZE] = ATR$S_RECATTR;
  2 ATTRIBUTES [0, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_R_RECATTR];
  2 ATTRIBUTES [1, ATR$W_TYPE] = ATR$C_CREDATE;
  2 ATTRIBUTES [1, ATR$W_SIZE] = ATR$S_CREDATE;
  2 ATTRIBUTES [1, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_Q_CREDATE];
  2 ATTRIBUTES [2, ATR$W_TYPE] = ATR$C_REVDATE;
  2 ATTRIBUTES [2, ATR$W_SIZE] = ATR$S_REVDATE;
  2 ATTRIBUTES [2, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_Q_REVDATE];
  2 ATTRIBUTES [3, ATR$W_TYPE] = ATR$C_EXPDATE;
  2 ATTRIBUTES [3, ATR$W_SIZE] = ATR$S_EXPDATE;
  2 ATTRIBUTES [3, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_Q_EXPDATE];
  2 ATTRIBUTES [4, ATR$W_TYPE] = ATR$C_BAKDATE;
  2 ATTRIBUTES [4, ATR$W_SIZE] = ATR$S_BAKDATE;
  2 ATTRIBUTES [4, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_Q_BAKDATE];
  2 ATTRIBUTES [5, ATR$W_TYPE] = ATR$C_STATBLK;
  2 ATTRIBUTES [5, ATR$W_SIZE] = ATR$S_STATBLK;
  2 ATTRIBUTES [5, ATR$L_ADDR] = ACP_STATISTICS;
  2 ATTRIBUTES [6, ATR$W_TYPE] = ATR$C_UIC;
  2 ATTRIBUTES [6, ATR$W_SIZE] = ATR$S_UIC;
  2 ATTRIBUTES [6, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_L_FILEOWNER];
  2 ATTRIBUTES [7, ATR$W_TYPE] = ATR$C_FPRO;
  2 ATTRIBUTES [7, ATR$W_SIZE] = ATR$S_FPRO;
  2 ATTRIBUTES [7, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_W_FILEPROT];
  2 ATTRIBUTES [8, ATR$W_TYPE] = ATR$C_UCHAR;
  2 ATTRIBUTES [8, ATR$W_SIZE] = ATR$S_UCHAR;
  2 ATTRIBUTES [8, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_L_FILECHAR];
  2 ATTRIBUTES [9, ATR$W_TYPE] = ATR$C_ASCDATES;
  2 ATTRIBUTES [9, ATR$W_SIZE] = 2;
  2 ATTRIBUTES [9, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_W_REVISION];
  2 ATTRIBUTES [10, ATR$W_TYPE] = ATR$C_JOURNAL;
  2 ATTRIBUTES [10, ATR$W_SIZE] = ATR$S_JOURNAL;
```

```
;  633          1030  2 ATTRIBUTES [10, ATR$L_ADDR] = DISPLAY_BLOCK[DIR_W_JOURNAL];
;  634          1031  2 ATTRIBUTES [11, ATR$W_TYPE] = ATR$C_FNDACETYP;
;  635          1032  2 ATTRIBUTES [11, ATR$W_SIZE] = ATR$S_FNDACETYP;
;  636          1033  2 ATTRIBUTES [11, ATR$L_ADDR] = AI_JNLACE;
;  637          1034  2 ATTRIBUTES [12, ATR$W_TYPE] = ATR$C_FNDACETYP;
;  638          1035  2 ATTRIBUTES [12, ATR$W_SIZE] = ATR$S_FNDACETYP;
;  639          1036  2 ATTRIBUTES [12, ATR$L_ADDR] = BI_JNLACE;
;  640          1037  2 ATTRIBUTES [13, ATR$W_TYPE] = ATR$C_FNDACETYP;
;  641          1038  2 ATTRIBUTES [13, ATR$W_SIZE] = ATR$S_FNDACETYP;
;  642          1039  2 ATTRIBUTES [13, ATR$L_ADDR] = AT_JNLACE;
;  643          1040  2 ATTRIBUTES [14, ATR$W_TYPE] = ATR$C_ACLLENGTH;
;  644          1041  2 ATTRIBUTES [14, ATR$W_SIZE] = ATR$S_ACLLENGTH;
;  645          1042  2 ATTRIBUTES [14, ATR$L_ADDR] = ACL_LENGTH;
;  646          1043  2
;  647          1044  2 ! Set up for the ACE locate operation necessary to get the RMS journal
;  648          1045  2 ! information.
;  649          1046  2
;  650          1047  2 AI_JNLACE[ACE$B_SIZE] = 0;
;  651          1048  2 AI_JNLACE[ACE$B_TYPE] = ACE$C_AIJNL;
;  652          1049  2 BI_JNLACE[ACE$B_SIZE] = 0;
;  653          1050  2 BI_JNLACE[ACE$B_TYPE] = ACE$C_BIJNL;
;  654          1051  2 AT_JNLACE[ACE$B_SIZE] = 0;
;  655          1052  2 AT_JNLACE[ACE$B_TYPE] = ACE$C_ATJNL;
;  656          1053  2
;  657          1054  2 ! Issue the ACP QIO to get the needed information.
;  658          1055  2
;  659          1056  2 CH$FILL (0, FIB$C_LENGTH, FIB);
;  660          1057  2 CH$FILL (0, DSC$C_S_BLN, FIB_DESC);
;  661          1058  2 FIB_DESC[DSC$W_LENGTH] = FIB$C_LENGTH;
;  662          1059  2 FIB_DESC[DSC$A_POINTER] = FIB;
;  663          1060  2
;  664          1061  2 IF .QUAL_FLAGS[DIR_V_QUAL_FULL]
;  665          1062  2 AND NOT .DISPLAY_BLOCK[DIR_V_SQD]
;  666          1063  2 THEN
;  667          1064  3     BEGIN
;  668          1065  3     FIB[FIB$W_DID_NUM] = .FILE_NAM[NAM$W_DID_NUM];
;  669          1066  3     FIB[FIB$W_DID_SEQ] = .FILE_NAM[NAM$W_DID_SEQ];
;  670          1067  3     FIB[FIB$W_DID_RVN] = .FILE_NAM[NAM$W_DID_RVN];
;  671          1068  3     CH$FILL (0, DSC$C_S_BLN, FILE_DESC);
;  672          1069  3     FILE_DESC[DSC$W_LENGTH] = .FILE_NAM[NAM$B_NAME] +
;  673          1070  3                               .FILE_NAM[NAM$B_TYPE] +
;  674          1071  3                               .FILE_NAM[NAM$B_VER];
;  675          1072  3     FILE_DESC[DSC$A_POINTER] = .FILE_NAM[NAM$L_NAME];
;  676          1073  3     END
;  677          1074  2 ELSE
;  678          1075  3     BEGIN
;  679          1076  3     FIB[FIB$W_FID_NUM] = .FILE_NAM[NAM$W_FID_NUM];
;  680          1077  3     FIB[FIB$W_FID_SEQ] = .FILE_NAM[NAM$W_FID_SEQ];
;  681          1078  3     FIB[FIB$W_FID_RVN] = .FILE_NAM[NAM$W_FID_RVN];
;  682          1079  2     END;
;  683          1080  2
;  684        P 1081  2 STATUS = $QIOW (FUNC = IO$_ACCESS,
;  685        P 1082  2                 CHAN = .CHANNEL,
;  686        P 1083  2                 IOSB = IOSTS,
;  687        P 1084  2                 P1 = FIB_DESC,
;  688        P 1085  2                 P2 = (IF .QUAL_FLAGS[DIR_V_QUAL_FULL]
;  689        P 1086  2                       AND NOT .DISPLAY_BLOCK[DIR_V_SQD]
;  690        P 1087  2                         THEN FILE_DESC ELSE 0),
;  691          1088  2                 P5 = ATTRIBUTES);
;  692          1089  2 IF .STATUS THEN STATUS = .IOSTS[0];
;  693          1090  2 IF NOT .STATUS
;  694          1091  2 THEN
;  695          1092  3     BEGIN
;  696          1093  3     $DASSGN (CHAN = .CHANNEL);
;  697          1094  3     CHANNEL = 0;
;  698          1095  3     RETURN .STATUS;
;  699          1096  2     END;
;  700          1097  2
;  701          1098  2 ! Fix up some of the information returned.
;  702          1099  2
;  703          1100  2 IF .DISPLAY_BLOCK[DIR_V_SQD]
;  704          1101  2 THEN
;  705          1102  3     BEGIN
;  706          1103  3     DISPLAY_BLOCK[DIR_L_HIBLK] = ROT (.ACP_STATISTICS[SBK$L_FILESIZE], 16);
;  707          1104  3     DISPLAY_BLOCK[DIR_L_EFBLK] = .DISPLAY_BLOCK[DIR_L_HIBLK];
;  708          1105  3     END
;  709          1106  2 ELSE
;  710          1107  3     BEGIN
;  711          1108  3     DISPLAY_BLOCK[DIR_L_HIBLK] = ROT (.DISPLAY_BLOCK[DIR_L_HIBLK], 16);
;  712          1109  3     IF (DISPLAY_BLOCK[DIR_L_EFBLK] = ROT (.DISPLAY_BLOCK[DIR_L_EFBLK], 16)) EQL 0
;  713          1110  3     THEN DISPLAY_BLOCK[DIR_L_EFBLK] = .DISPLAY_BLOCK[DIR_L_HIBLK]
;  714          1111  3     ELSE IF .DISPLAY_BLOCK[DIR_W_FFBYTE] EQL 0
;  715          1112  3         THEN DISPLAY_BLOCK[DIR_L_EFBLK] = .DISPLAY_BLOCK[DIR_L_EFBLK] - 1;
;  716          1113  2     END;
;  717          1114  2
;  718          1115  2 IF .DISPLAY_BLOCK[DIR_W_RSIZE] EQL 0
;  719          1116  2 THEN DISPLAY_BLOCK[DIR_W_RSIZE] = .DISPLAY_BLOCK[DIR_W_MAXREC];
;  720          1117  2 DISPLAY_BLOCK[DIR_W_VERLIMIT] = .FIB[FIB$W_VERLIMIT];
;  721          1118  2
;  722          1119  2 ! Check for any RMS journaling information in the file's ACL.
;  723          1120  2
;  724          1121  2 IF .AI_JNLACE[ACE$B_SIZE] NEQ 0
;  725          1122  2 THEN
;  726          1123  3     BEGIN
;  727          1124  3     DISPLAY_BLOCK[DIR_B_AI_SIZE] = .AI_JNLACE[ACE$B_SIZE] -
;  728          1125  3                                     $BYTEOFFSET (ACE$T_RMSJNLNAM);
;  729          1126  3     CH$MOVE (.DISPLAY_BLOCK[DIR_B_AI_SIZE], AI_JNLACE[ACE$T_RMSJNLNAM],
;  730          1127  3                                             DISPLAY_BLOCK[DIR_T_AI_NAME]);
;  731          1128  2     END;
;  732          1129  2 IF .BI_JNLACE[ACE$B_SIZE] NEQ 0
;  733          1130  2 THEN
;  734          1131  3     BEGIN
;  735          1132  3     DISPLAY_BLOCK[DIR_B_BI_SIZE] = .BI_JNLACE[ACE$B_SIZE] -
;  736          1133  3                                     $BYTEOFFSET (ACE$T_RMSJNLNAM);
;  737          1134  3     CH$MOVE (.DISPLAY_BLOCK[DIR_B_BI_SIZE], BI_JNLACE[ACE$T_RMSJNLNAM],
;  738          1135  3                                             DISPLAY_BLOCK[DIR_T_BI_NAME]);
;  739          1136  2     END;
;  740          1137  2 IF .AT_JNLACE[ACE$B_SIZE] NEQ 0
;  741          1138  2 THEN
;  742          1139  3     BEGIN
;  743          1140  3     DISPLAY_BLOCK[DIR_B_AT_SIZE] = .AT_JNLACE[ACE$B_SIZE] -
;  744          1141  3                                     $BYTEOFFSET (ACE$T_RMSJNLNAM);
;  745          1142  3     CH$MOVE (.DISPLAY_BLOCK[DIR_B_AT_SIZE], AT_JNLACE[ACE$T_RMSJNLNAM],
;  746          1143  3                                             DISPLAY_BLOCK[DIR_T_AT_NAME]);
;  747      1144  2      END;
;  748      1145  2
;  749      1146  2  ! Now copy the information obtained into the appropriate RMS data structures.
;  750      1147  2  ! This is necessary because the common qualifier package expects RMS data
;  751      1148  2  ! structures.  This is only done if one of the common qualifiers is given
;  752      1149  2  ! on the command line.
;  753      1150  2
;  754      1151  2  IF .QUAL_FLAGS[DIR_V_COMM_QUAL]
;  755      1152  2  THEN
;  756      1153  3      BEGIN
;  757      1154  3
;  758      1155  3  ! Fill in the FAB first.
;  759      1156  3
;  760      1157  3      IF .DISPLAY_BLOCK[DIR_V_CONTIG] THEN FILE_FAB[FAB$V_CTG] = 1;
;  761      1158  3      IF .DISPLAY_BLOCK[DIR_V_CONTIGB] THEN FILE_FAB[FAB$V_CBT] = 1;
;  762      1159  3      IF .DISPLAY_BLOCK[DIR_V_READCHECK] THEN FILE_FAB[FAB$V_RCK] = 1;
;  763      1160  3      IF .DISPLAY_BLOCK[DIR_V_MARKDEL] THEN FILE_FAB[FAB$V_TMP] = 1;
;  764      1161  3      IF .DISPLAY_BLOCK[DIR_V_WRITCHECK] THEN FILE_FAB[FAB$V_WCK] = 1;
;  765      1162  3
;  766      1163  3      FILE_FAB[FAB$L_ALQ] = .DISPLAY_BLOCK[DIR_L_HIBLK];
;  767      1164  3      FILE_FAB[FAB$B_BKS] = .DISPLAY_BLOCK[DIR_B_BKTSIZE];
;  768      1165  3      FILE_FAB[FAB$W_DEQ] = .DISPLAY_BLOCK[DIR_W_DEFEXT];
;  769      1166  3      FILE_FAB[FAB$B_FSZ] = .DISPLAY_BLOCK[DIR_B_VFCSIZE];
;  770      1167  3      FILE_FAB[FAB$W_GBC] = .DISPLAY_BLOCK[DIR_W_GBC];
;  771      1168  3      IF (FILE_FAB[FAB$W_MRS] = .DISPLAY_BLOCK[DIR_W_RSIZE]) EQL 0
;  772      1169  3      THEN FILE_FAB[FAB$Q_MRS] = .DISPLAY_BLOCK[DIR_Q_MAXREC];
;  773      1170  3      FILE_FAB[FAB$B_ORG] = .DISPLAY_BLOCK[DIR_V_FILEORG];
;  774      1171  3      FILE_FAB[FAB$B_RAT] = .DISPLAY_BLOCK[DIR_B_RATTRIB];
;  775      1172  3      FILE_FAB[FAB$B_RFM] = .DISPLAY_BLOCK[DIR_V_RTYPE];
;  776      1173  3      FILE_FAB[FAB$L_XAB] = .FIRST_XAB;
;  777      1174  3
;  778      1175  3  ! Now fill in the DATe XAB.
;  779      1176  3
;  780      1177  3      CH$MOVE (8, DISPLAY_BLOCK[DIR_Q_BAKDATE], INFO_XABDAT[XAB$Q_BDT]);
;  781      1178  3      CH$MOVE (8, DISPLAY_BLOCK[DIR_Q_CREDATE], INFO_XABDAT[XAB$Q_CDT]);
;  782      1179  3      CH$MOVE (8, DISPLAY_BLOCK[DIR_Q_EXPDATE], INFO_XABDAT[XAB$Q_EDT]);
;  783      1180  3      CH$MOVE (8, DISPLAY_BLOCK[DIR_Q_REVDATE], INFO_XABDAT[XAB$Q_RDT]);
;  784      1181  3      INFO_XABDAT[XAB$W_RVN] = .DISPLAY_BLOCK[DIR_W_REVISION];
;  785      1182  3
;  786      1183  3  ! Now for the File Header Characteristics XAB.
;  787      1184  3
;  788      1185  3      INFO_XABFHC[XAB$B_ATR] = .FILE_FAB[FAB$B_RAT];
;  789      1186  3      INFO_XABFHC[XAB$B_BKZ] = .FILE_FAB[FAB$B_BKS];
;  790      1187  3      INFO_XABFHC[XAB$W_DXQ] = .FILE_FAB[FAB$W_DEQ];
;  791      1188  3      INFO_XABFHC[XAB$L_EBK] = .DISPLAY_BLOCK[DIR_L_EFBLK];
;  792      1189  3      INFO_XABFHC[XAB$W_FFB] = .DISPLAY_BLOCK[DIR_W_FFBYTE];
;  793      1190  3      INFO_XABFHC[XAB$W_GBC] = .FILE_FAB[FAB$W_GBC];
;  794      1191  3      INFO_XABFHC[XAB$L_HBK] = .DISPLAY_BLOCK[DIR_L_HIBLK];
;  795      1192  3      INFO_XABFHC[XAB$B_HSZ] = .FILE_FAB[FAB$B_FSZ];
;  796      1193  3      INFO_XABFHC[XAB$W_MRZ] = .FILE_FAB[FAB$W_MRS];
;  797      1194  3      INFO_XABFHC[XAB$B_RFO] = .FILE_FAB[FAB$B_ORG];
;  798      1195  3      INFO_XABFHC[XAB$L_SBN] = .ACP_STATISTICS[SBK$L_STLBN];
;  799      1196  3      INFO_XABFHC[XAB$W_VERLIMIT] = .DISPLAY_BLOCK[DIR_W_VERLIMIT];
;  800      1197  3
;  801      1198  3  ! Now for the RMS journaling XAB.
;  802      1199  3
;  803      1200  3      IF (INFO_XABJNL[XAB$B_AIL] = .DISPLAY_BLOCK[DIR_B_AI_SIZE]) GTR 0
;  804          1201  3         THEN INFO_XABJNL[XAB$L_AIA] = DISPLAY_BLOCK[DIR_T_AI_NAME];
;  805          1202  3         IF (INFO_XABJNL[XAB$B_BIL] = .DISPLAY_BLOCK[DIR_B_BI_SIZE]) GTR 0
;  806          1203  3         THEN INFO_XABJNL[XAB$L_BIA] = DISPLAY_BLOCK[DIR_T_BI_NAME];
;  807          1204  3         IF (INFO_XABJNL[XAB$B_ATL] = .DISPLAY_BLOCK[DIR_B_AT_SIZE]) GTR 0
;  808          1205  3         THEN INFO_XABJNL[XAB$L_ATA] = DISPLAY_BLOCK[DIR_T_AT_NAME];
;  809          1206  3
;  810          1207  3 ! And now...The PROtection XAB.
;  811          1208  3
;  812          1209  3         INFO_XABPRO[XAB$W_PRO] = .DISPLAY_BLOCK[DIR_W_FILEPROT];
;  813          1210  3         INFO_XABPRO[XAB$L_UIC] = .DISPLAY_BLOCK[DIR_L_FILEOWNER];
;  814          1211  2         END;
;  815          1212  2
;  816          1213  2 ! Finally, if this is a relative or indexed file, obtain the information from
;  817          1214  2 ! the file's prolog.
;  818          1215  2
;  819          1216  3 IF (.DISPLAY_BLOCK[DIR_V_FILEORG] EQL DIR_C_RELATIVE
;  820          1217  3         OR .DISPLAY_BLOCK[DIR_V_FILEORG] EQL DIR_C_INDEXED)
;  821          1218  2 AND .QUAL_FLAGS[DIR_V_QUAL_FULL]
;  822          1219  2 THEN
;  823          1220  3         BEGIN
;  824          1221  3         LOCAL           OLD_FAB_LNK,
;  825          1222  3                         OLD_XAB_LNK;
;  826          1223  3         OLD_FAB_LNK = .FILE_FAB[FAB$L_XAB];
;  827          1224  3         OLD_XAB_LNK = .INFO_XABSUM[XAB$L_NXT];
;  828          1225  3         FILE_FAB[FAB$W_DEQ] = 0;                        ! Zero because RMS takes non-zero as input
;  829          1226  3         FILE_FAB[FAB$L_XAB] = INFO_XABSUM;
;  830          1227  3         INFO_XABSUM[XAB$L_NXT] = 0;
;  831          1228  4         IF $OPEN (FAB = .FILE_FAB)
;  832          1229  3         THEN
;  833          1230  4             BEGIN
;  834          1231  4             DISPLAY_BLOCK[DIR_L_MRN] = .FILE_FAB[FAB$L_MRN];
;  835          1232  4             DISPLAY_BLOCK[DIR_B_NOKEYS] = .INFO_XABSUM[XAB$B_NOK];
;  836          1233  4             DISPLAY_BLOCK[DIR_W_PVN] = .INFO_XABSUM[XAB$W_PVN];
;  837          1234  4             DISPLAY_BLOCK[DIR_B_NOAREAS] = .INFO_XABSUM[XAB$B_NOA];
;  838          1235  4             $CLOSE (FAB = .FILE_FAB);
;  839          1236  3             END;
;  840          1237  3         FILE_FAB[FAB$L_XAB] = .OLD_FAB_LNK;
;  841          1238  3         INFO_XABSUM[XAB$L_NXT] = .OLD_XAB_LNK;
;  842          1239  2         END;
;  843          1240  2
;  844          1241  2 RETURN .STATUS;
;  845          1242  2
;  846          1243  1 END;                                                    ! End of routine DIR$ACP_FILL



                                                                          .EXTRN  SYS$DASSGN, SYS$ASSIGN
                                                                          .EXTRN  SYS$QIOW, SYS$OPEN
                                                                          .EXTRN  SYS$CLOSE

                                                 0FFC 00000 DIR$ACP_FILL:
                                                                          .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11        ; 0916
                                5E      FBE0  CE  9E 00002                MOVAB   -1056(SP), SP                                ;
                                56        08  AC  D0 00007                MOVL    FILE_NAM, R6                                 ; 0975
           00000000'  EF        14  A6        10  29 0000B                CMPC3   #16, 20(R6), DEVICE_NAME                     ;
                                              08  12 00014                BNEQ    1$                                           ;
                                   00000000'  EF  D5 00016                TSTL    CHANNEL                                      ; 0976
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                                                         57  12 0001C         BNEQ    3$                                      ;
                                         50   00000000'  EF  D0 0001E 1$:     MOVL    CHANNEL, R0                             ; 0979
                                                         09  13 00025         BEQL    2$                                      ;
                                                         50  DD 00027         PUSHL   R0                                      ;
                              00000000G  00              01  FB 00029         CALLS   #1, SYS$DASSGN                          ;
               00000000'  EF         14  A6              10  28 00030 2$:     MOVC3   #16, 20(R6), DEVICE_NAME                ; 0980
        08                00             6E              00  2C 00039         MOVC5   #0, (SP), #0, #8, DEVICE_DESC           ; 0981
                                                     F8  AD     0003E                                                         ;
                                     F8  AD   00000000'  EF  9B 00040         MOVZBW  DEVICE_NAME, DEVICE_DESC                ; 0982
                                     FC  AD   00000000'  EF  9E 00048         MOVAB   DEVICE_NAME+1, DEVICE_DESC+4            ; 0983
                                                         7E  7C 00050         CLRQ    -(SP)                                   ; 0985
                                              00000000'  EF  9F 00052         PUSHAB  CHANNEL                                 ;
                                                     F8  AD  9F 00058         PUSHAB  DEVICE_DESC                             ;
                              00000000G  00              04  FB 0005B         CALLS   #4, SYS$ASSIGN                          ;
                                         5B              50  D0 00062         MOVL    R0, STATUS                              ;
                                         0D              5B  E8 00065         BLBS    STATUS, 3$                              ; 0986
        10                00             6E              00  2C 00068         MOVC5   #0, (SP), #0, #16, DEVICE_NAME          ; 0989
                                              00000000'  EF     0006D                                                         ;
                                                       01C4  31 00072         BRW     9$                                      ; 0990
00A0    8F                00             6E              00  2C 00075 3$:     MOVC5   #0, (SP), #0, #160, ATTRIBUTES          ; 0997
                                                   FF08  CD     0007C                                                         ;
                                   FF08  CD    00040020  8F  D0 0007F         MOVL    #262176, ATTRIBUTES                     ; 0999
                                         57   00000000'  EF  D0 00088         MOVL    DISPLAY_BLOCK, R7                       ; 1000
                                   FF0C  CD        0129  C7  9E 0008F         MOVAB   297(R7), ATTRIBUTES+4                   ;
                                   FF10  CD    00110008  8F  D0 00096         MOVL    #1114120, ATTRIBUTES+8                  ; 1002
                                   FF14  CD        0170  C7  9E 0009F         MOVAB   368(R7), ATTRIBUTES+12                  ; 1003
                                   FF18  CD    00120008  8F  D0 000A6         MOVL    #1179656, ATTRIBUTES+16                 ; 1005
                                   FF1C  CD        0178  C7  9E 000AF         MOVAB   376(R7), ATTRIBUTES+20                  ; 1006
                                   FF20  CD    00130008  8F  D0 000B6         MOVL    #1245192, ATTRIBUTES+24                 ; 1008
                                   FF24  CD        0180  C7  9E 000BF         MOVAB   384(R7), ATTRIBUTES+28                  ; 1009
                                   FF28  CD    00140008  8F  D0 000C6         MOVL    #1310728, ATTRIBUTES+32                 ; 1011
                                   FF2C  CD        0188  C7  9E 000CF         MOVAB   392(R7), ATTRIBUTES+36                  ; 1012
                                   FF30  CD    00090020  8F  D0 000D6         MOVL    #589856, ATTRIBUTES+40                  ; 1014
                                   FF34  CD        FEE8  CD  9E 000DF         MOVAB   ACP_STATISTICS, ATTRIBUTES+44           ; 1015
                                   FF38  CD    00150004  8F  D0 000E6         MOVL    #1376260, ATTRIBUTES+48                 ; 1017
                                   FF3C  CD        014E  C7  9E 000EF         MOVAB   334(R7), ATTRIBUTES+52                  ; 1018
                                   FF40  CD    00160002  8F  D0 000F6         MOVL    #1441794, ATTRIBUTES+56                 ; 1020
                                   FF44  CD        0152  C7  9E 000FF         MOVAB   338(R7), ATTRIBUTES+60                  ; 1021
                                   FF48  CD    00030004  8F  D0 00106         MOVL    #196612, ATTRIBUTES+64                  ; 1023
                                   FF4C  CD        0149  C7  9E 0010F         MOVAB   329(R7), ATTRIBUTES+68                  ; 1024
                                   FF50  CD    000D0002  8F  D0 00116         MOVL    #851970, ATTRIBUTES+72                  ; 1026
                                   FF54  CD        016E  C7  9E 0011F         MOVAB   366(R7), ATTRIBUTES+76                  ; 1027
                                   FF58  CD    001D0002  8F  D0 00126         MOVL    #1900546, ATTRIBUTES+80                 ; 1029
                                   FF5C  CD        0154  C7  9E 0012F         MOVAB   340(R7), ATTRIBUTES+84                  ; 1030
                                   FF60  CD    002300FF  8F  D0 00136         MOVL    #2294015, ATTRIBUTES+88                 ; 1032
                                   FF64  CD        0208  CE  9E 0013F         MOVAB   AI_JNLACE, ATTRIBUTES+92                ; 1033
                                   FF68  CD    002300FF  8F  D0 00146         MOVL    #2294015, ATTRIBUTES+96                 ; 1035
                                   FF6C  CD        0108  CE  9E 0014F         MOVAB   BI_JNLACE, ATTRIBUTES+100               ; 1036
                                   FF70  CD    002300FF  8F  D0 00156         MOVL    #2294015, ATTRIBUTES+104                ; 1038
                                   FF74  CD          08  AE  9E 0015F         MOVAB   AT_JNLACE, ATTRIBUTES+108               ; 1039
                                   FF78  CD    00260004  8F  D0 00165         MOVL    #2490372, ATTRIBUTES+112                ; 1041
                                   FF7C  CD   00000000'  EF  9E 0016E         MOVAB   ACL_LENGTH, ATTRIBUTES+116              ; 1042
                                   0208  CE        0300  8F  B0 00177         MOVW    #768, AI_JNLACE                         ; 1047
                                   0108  CE        0200  8F  B0 0017E         MOVW    #512, BI_JNLACE                         ; 1049
                                     08  AE        0400  8F  B0 00185         MOVW    #1024, AT_JNLACE                        ; 1051
0040    8F                00             6E              00  2C 0018B         MOVC5   #0, (SP), #0, #64, FIB                  ; 1056
                                                     A8  AD     00192                                                         ;
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08           00              6E             00  2C 00194       MOVC5    #0, (SP), #0, #8, FIB_DESC              ; 1057
                                        E8  AD     00199                                                        ;
                         E8  AD         40  8F  9B 0019B       MOVZBW   #64, FIB_DESC                           ; 1058
                         EC  AD         A8  AD  9E 001A0       MOVAB    FIB, FIB_DESC+4                         ; 1059
             31   00000000'  EF             01  E1 001A5       BBC      #1, QUAL_FLAGS+1, 4$                    ; 1061
             2C          04  A7             01  E0 001AD       BBS      #1, 4(R7), 4$                           ; 1062
                         B2  AD         2A  A6  D0 001B2       MOVL     42(R6), FIB+10                          ; 1065
                         B6  AD         2E  A6  B0 001B7       MOVW     46(R6), FIB+14                          ; 1067
08           00              6E             00  2C 001BC       MOVC5    #0, (SP), #0, #8, FILE_DESC             ; 1068
                                        F0  AD     001C1                                                        ;
                             50         3B  A6  9A 001C3       MOVZBL   59(R6), R0                              ; 1070
                             51         3C  A6  9A 001C7       MOVZBL   60(R6), R1                              ;
                             50             51  C0 001CB       ADDL2    R1, R0                                  ;
                             52         3D  A6  9A 001CE       MOVZBL   61(R6), R2                              ; 1071
        F0   AD              50             52  A1 001D2       ADDW3    R2, R0, FILE_DESC                       ;
                         F4  AD         4C  A6  D0 001D7       MOVL     76(R6), FILE_DESC+4                     ; 1072
                                            0A  11 001DC       BRB      5$                                      ; 1061
                         AC  AD         24  A6  D0 001DE 4$:   MOVL     36(R6), FIB+4                           ; 1076
                         B0  AD         28  A6  B0 001E3       MOVW     40(R6), FIB+8                           ; 1078
                                            7E  D4 001E8 5$:   CLRL     -(SP)                                   ; 1088
                                      FF08  CD  9F 001EA       PUSHAB   ATTRIBUTES                              ;
                                            7E  7C 001EE       CLRQ     -(SP)                                   ;
             0D   00000000'  EF             01  E1 001F0       BBC      #1, QUAL_FLAGS+1, 6$                    ;
             08          04  A7             01  E0 001F8       BBS      #1, 4(R7), 6$                           ;
                             50         F0  AD  9E 001FD       MOVAB    FILE_DESC, R0                           ;
                                            50  DD 00201       PUSHL    R0                                      ;
                                            02  11 00203       BRB      7$                                      ;
                                            7E  D4 00205 6$:   CLRL     -(SP)                                   ;
                                        E8  AD  9F 00207 7$:   PUSHAB   FIB_DESC                                ;
                                            7E  7C 0020A       CLRQ     -(SP)                                   ;
                                        20  AE  9F 0020C       PUSHAB   IOSTS                                   ;
                                            32  DD 0020F       PUSHL    #50                                     ;
                                 00000000'  EF  DD 00211       PUSHL    CHANNEL                                 ;
                                            7E  D4 00217       CLRL     -(SP)                                   ;
                  00000000G  00             0C  FB 00219       CALLS    #12, SYS$QIOW                           ;
                             5B             50  D0 00220       MOVL     R0, STATUS                              ;
                             06             5B  E9 00223       BLBC     STATUS, 8$                              ; 1089
                             5B             6E  3C 00226       MOVZWL   IOSTS, STATUS                           ;
                             16             5B  E8 00229       BLBS     STATUS, 10$                             ; 1090
                                 00000000'  EF  DD 0022C 8$:   PUSHL    CHANNEL                                 ; 1093
                  00000000G  00             01  FB 00232       CALLS    #1, SYS$DASSGN                          ;
                                 00000000'  EF  D4 00239 9$:   CLRL     CHANNEL                                 ; 1094
                                          027B  31 0023F       BRW      32$                                     ; 1095
                             56  00000000'  EF  D0 00242 10$:  MOVL     DISPLAY_BLOCK, R6                       ; 1100
                             59       012D  C6  9E 00249       MOVAB    301(R6), R9                             ; 1103
                             58       0131  C6  9E 0024E       MOVAB    305(R6), R8                             ; 1104
             08          04  A6             01  E1 00253       BBC      #1, 4(R6), 11$                          ; 1100
             69        FEEC  CD             10  9C 00258       ROTL     #16, ACP_STATISTICS+4, (R9)             ; 1103
                                            0A  11 0025E       BRB      12$                                     ; 1104
             69              69             10  9C 00260 11$:  ROTL     #16, (R9), (R9)                         ; 1108
             68              68             10  9C 00264       ROTL     #16, (R8), (R8)                         ; 1109
                                            05  12 00268       BNEQ     13$                                     ;
                             68             69  D0 0026A 12$:  MOVL     (R9), (R8)                              ; 1110
                                            08  11 0026D       BRB      14$                                     ;
                                      0135  C6  B5 0026F 13$:  TSTW     309(R6)                                 ; 1111
                                            02  12 00273       BNEQ     14$                                     ;
                                            68  D7 00275       DECL     (R8)                                    ; 1112
                             5A     012B  C6 9E 00277 14$:   MOVAB   299(R6), R10                                   ; 1115
                                            6A B5 0027C         TSTW    (R10)                                          ;
                                            05 12 0027E         BNEQ    15$                                            ;
                             6A     0139  C6 B0 00280         MOVW    313(R6), (R10)                                 ; 1116
                       011D  C6       D4  AD B0 00285 15$:   MOVW    FIB+44, 285(R6)                                ; 1117
                             50     0208  CE 9A 0028B         MOVZBL  AI_JNLACE, R0                                  ; 1121
                                            13 13 00290         BEQL    16$                                            ;
          0198  C6           50             04 83 00292         SUBB3   #4, R0, 408(R6)                                ; 1124
                             50     0198  C6 9A 00298         MOVZBL  408(R6), R0                                    ; 1126
          0199  C6     020C  CE             50 28 0029D         MOVC3   R0, AI_JNLACE+4, 409(R6)                       ; 1127
                             50     0108  CE 9A 002A5 16$:   MOVZBL  BI_JNLACE, R0                                  ; 1129
                                            13 13 002AA         BEQL    17$                                            ;
          01A9  C6           50             04 83 002AC         SUBB3   #4, R0, 425(R6)                                ; 1132
                             50     01A9  C6 9A 002B2         MOVZBL  425(R6), R0                                    ; 1134
          01AA  C6     010C  CE             50 28 002B7         MOVC3   R0, BI_JNLACE+4, 426(R6)                       ; 1135
                                       08  AE 95 002BF 17$:   TSTB    AT_JNLACE                                      ; 1137
                                            13 13 002C2         BEQL    18$                                            ;
          01BA  C6       08  AE             04 83 002C4         SUBB3   #4, AT_JNLACE, 442(R6)                         ; 1140
                             50     01BA  C6 9A 002CB         MOVZBL  442(R6), R0                                    ; 1142
          01BB  C6       0C  AE             50 28 002D0         MOVC3   R0, AT_JNLACE+4, 443(R6)                       ; 1143
               03 00000000'  EF             06 E0 002D7 18$:   BBS     #6, QUAL_FLAGS+3, 19$                          ; 1151
                                          016B 31 002DF         BRW     29$                                            ;
                             51     0149  C6 9E 002E2 19$:   MOVAB   329(R6), R1                                    ; 1157
                                            61 95 002E7         TSTB    (R1)                                           ;
                                            08 18 002E9         BGEQ    20$                                            ;
                             50       04  AC D0 002EB         MOVL    FILE_FAB, R0                                   ;
                         06  A0             10 88 002EF         BISB2   #16, 6(R0)                                     ;
                08           61             05 E1 002F3 20$:   BBC     #5, (R1), 21$                                  ; 1158
                             50       04  AC D0 002F7         MOVL    FILE_FAB, R0                                   ;
                         06  A0             20 88 002FB         BISB2   #32, 6(R0)                                     ;
                09           61             03 E1 002FF 21$:   BBC     #3, (R1), 22$                                  ; 1159
                             50       04  AC D0 00303         MOVL    FILE_FAB, R0                                   ;
                         06  A0       80  8F 88 00307         BISB2   #128, 6(R0)                                    ;
                                            61 B5 0030C 22$:   TSTW    (R1)                                           ; 1160
                                            08 18 0030E         BGEQ    23$                                            ;
                             50       04  AC D0 00310         MOVL    FILE_FAB, R0                                   ;
                         04  A0             08 88 00314         BISB2   #8, 4(R0)                                      ;
                08           61             04 E1 00318 23$:   BBC     #4, (R1), 24$                                  ; 1161
                             50       04  AC D0 0031C         MOVL    FILE_FAB, R0                                   ;
                         05  A0             02 88 00320         BISB2   #2, 5(R0)                                      ;
                             57       04  AC D0 00324 24$:   MOVL    FILE_FAB, R7                                   ; 1163
                         10  A7             69 D0 00328         MOVL    (R9), 16(R7)                                   ;
                         14  A7     013B  C6 B0 0032C         MOVW    315(R6), 20(R7)                                ; 1165
                         3E  A7     0137  C6 B0 00332         MOVW    311(R6), 62(R7)                                ; 1164
                         48  A7     013D  C6 B0 00338         MOVW    317(R6), 72(R7)                                ; 1167
                         36  A7             6A B0 0033E         MOVW    (R10), 54(R7)                                  ; 1168
                                            06 12 00342         BNEQ    25$                                            ;
                         36  A7     0139  C6 B0 00344         MOVW    313(R6), 54(R7)                                ; 1169
50        0129  C6           04             04 EF 0034A 25$:   EXTZV   #4, #4, 297(R6), R0                            ; 1170
                         1D  A7             50 90 00351         MOVB    R0, 29(R7)                                     ;
                         1E  A7     012A  C6 90 00355         MOVB    298(R6), 30(R7)                                ; 1171
50        0129  C6           04             00 EF 0035B         EXTZV   #0, #4, 297(R6), R0                            ; 1172
                         1F  A7             50 90 00362         MOVB    R0, 31(R7)                                     ;
                         24  A7 00000000'  EF D0 00366         MOVL    FIRST_XAB, 36(R7)                              ; 1173
     00000000'  EF     0188  C6             08 28 0036E         MOVC3   #8, 392(R6), INFO_XABDAT+36                    ; 1177
     00000000'  EF     0170  C6             08 28 00378         MOVC3   #8, 368(R6), INFO_XABDAT+20                    ; 1178
     00000000'  EF     0180  C6             08 28 00382         MOVC3   #8, 384(R6), INFO_XABDAT+28                    ; 1179
```

```
        00000000'  EF      0178  C6        08 28 0038C          MOVC3   #8, 376(R6), INFO_XABDAT+12             ; 1180
                00000000'  EF      016E  C6 B0 00396          MOVW    366(R6), INFO_XABDAT+8                  ; 1181
                00000000'  EF        1D  A7 B0 0039F          MOVW    29(R7), INFO_XABFHC+8                   ; 1194
                00000000'  EF        14  A7 B0 003A7          MOVW    20(R7), INFO_XABFHC+26                  ; 1187
                00000000'  EF            68 D0 003AF          MOVL    (R8), INFO_XABFHC+16                    ; 1188
                00000000'  EF      0135  C6 B0 003B6          MOVW    309(R6), INFO_XABFHC+20                 ; 1189
                00000000'  EF        48  A7 B0 003BF          MOVW    72(R7), INFO_XABFHC+28                  ; 1190
                00000000'  EF            69 D0 003C7          MOVL    (R9), INFO_XABFHC+12                    ; 1191
                00000000'  EF        3E  A7 B0 003CE          MOVW    62(R7), INFO_XABFHC+22                  ; 1186
                00000000'  EF        36  A7 B0 003D6          MOVW    54(R7), INFO_XABFHC+24                  ; 1193
                00000000'  EF      FEE8  CD D0 003DE          MOVL    ACP_STATISTICS, INFO_XABFHC+40          ; 1195
                00000000'  EF      011D  C6 B0 003E7          MOVW    285(R6), INFO_XABFHC+38                 ; 1196
                           50      0198  C6 9A 003F0          MOVZBL  408(R6), R0                             ; 1200
                00000000'  EF            50 90 003F5          MOVB    R0, INFO_XABJNL+21                      ;
                                         50 D5 003FC          TSTL    R0                                      ;
                                         09 15 003FE          BLEQ    26$                                     ;
                00000000'  EF      0199  C6 9E 00400          MOVAB   409(R6), INFO_XABJNL+24                 ; 1201
                           50      01A9  C6 9A 00409 26$:     MOVZBL  425(R6), R0                             ; 1202
                00000000'  EF            50 90 0040E          MOVB    R0, INFO_XABJNL+13                      ;
                                         50 D5 00415          TSTL    R0                                      ;
                                         09 15 00417          BLEQ    27$                                     ;
                00000000'  EF      01AA  C6 9E 00419          MOVAB   426(R6), INFO_XABJNL+16                 ; 1203
                           50      01BA  C6 9A 00422 27$:     MOVZBL  442(R6), R0                             ; 1204
                00000000'  EF            50 90 00427          MOVB    R0, INFO_XABJNL+29                      ;
                                         50 D5 0042E          TSTL    R0                                      ;
                                         09 15 00430          BLEQ    28$                                     ;
                00000000'  EF      01BB  C6 9E 00432          MOVAB   443(R6), INFO_XABJNL+32                 ; 1205
                00000000'  EF      0152  C6 B0 0043B 28$:     MOVW    338(R6), INFO_XABPRO+8                  ; 1209
                00000000'  EF      014E  C6 D0 00444          MOVL    334(R6), INFO_XABPRO+12                 ; 1210
     01      0129    C6            04            04 ED 0044D 29$:     CMPZV   #4, #4, 297(R6), #1                     ; 1216
                                         09 13 00454          BEQL    30$                                     ;
     02      0129    C6            04            04 ED 00456          CMPZV   #4, #4, 297(R6), #2                     ; 1217
                                         5E 12 0045D          BNEQ    32$                                     ;
             56 00000000'  EF            01 E1 0045F 30$:     BBC     #1, QUAL_FLAGS+1, 32$                   ; 1218
                           52        04  AC D0 00467          MOVL    FILE_FAB, R2                            ; 1223
                           54        24  A2 D0 0046B          MOVL    36(R2), OLD_FAB_LNK                     ;
                           53 00000000'  EF D0 0046F          MOVL    INFO_XABSUM+4, OLD_XAB_LNK              ; 1224
                                     14  A2 B4 00476          CLRW    20(R2)                                  ; 1225
                    24     A2 00000000'  EF 9E 00479          MOVAB   INFO_XABSUM, 36(R2)                     ; 1226
                              00000000'  EF D4 00481          CLRL    INFO_XABSUM+4                           ; 1227
                                         52 DD 00487          PUSHL   R2                                      ; 1228
                00000000G  00            01 FB 00489          CALLS   #1, SYS$OPEN                            ;
                           1F            50 E9 00490          BLBC    R0, 31$                                 ;
                           50 00000000'  EF D0 00493          MOVL    DISPLAY_BLOCK, R0                       ; 1231
                  0190     C0        38  A2 D0 0049A          MOVL    56(R2), 400(R0)                         ;
                  0194     C0 00000000'  EF D0 004A0          MOVL    INFO_XABSUM+8, 404(R0)                  ; 1234
                                         52 DD 004A9          PUSHL   R2                                      ; 1235
                00000000G  00            01 FB 004AB          CALLS   #1, SYS$CLOSE                           ;
                       24  A2            54 D0 004B2 31$:     MOVL    OLD_FAB_LNK, 36(R2)                     ; 1237
                00000000'  EF            53 D0 004B6          MOVL    OLD_XAB_LNK, INFO_XABSUM+4              ; 1238
                           50            5B D0 004BD 32$:     MOVL    STATUS, R0                              ; 1241
                                            04 004C0          RET                                             ; 1243

; Routine Size:  1217 bytes,    Routine Base:  $CODE$ + 0285
```

```
1 ROUTINE DIR$SHOW_INFO =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !       Display gathered information
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$SHOW_INFO ()
1 !
1 ! INPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1
1 !
1 ! SIDE EFFECTS:
1 !       none
1 !
1 !--
1
2 BEGIN
2
2 LOCAL
2       HEADER_LEN,                                     ! Length of file prefix
2       FILENAME_LEN,                                   ! Length of the file name
2       NAME_LEN,                                       ! File name length minus version
2       SPACE_COUNT,                                    ! Number of spaces to pad
2       LOCAL_DESC      : $BBLOCK [DSC$C_S_BLN],                ! Local text descriptor
2       MARK_POSITION,                                  ! Saved line position
2       COLUMN_BEGIN;                                   ! Beginning position of column
2
2 EXTERNAL ROUTINE
2       DIR$OUTPUT;                                     ! General output routine
2
2 ! See if it is necessary and time to do the header & trailer information.
2
2 HEADER_LEN = .DISPLAY_BLOCK[DIR_B_NODE] +
2              .DISPLAY_BLOCK[DIR_B_DEV] +
2              .DISPLAY_BLOCK[DIR_B_DIR];
2 FILENAME_LEN = .DISPLAY_BLOCK[DIR_B_FNS] - .HEADER_LEN;
2 NAME_LEN = .DISPLAY_BLOCK[DIR_B_FNS] - .DISPLAY_BLOCK[DIR_B_VER];
2
2 IF CH$NEQ (.PREV_DIR_LEN, PREV_DIR, .HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME])
2 THEN
3     BEGIN
3     IF .LINE_DESC[DSC$W_LENGTH] GTR 0
3     THEN
4         BEGIN
```

```
  4         DIR$OUTPUT (0, LINE_DESC);
  4         COLUMN_INDEX = 0
  3         END;
  3     IF .PREV_DIR_LEN NEQ 0 THEN DIR$TOTAL ();
  3     PREV_DIR_LEN = .HEADER_LEN;
  3     CH$MOVE (.HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], PREV_DIR);
  3     IF .QUAL_FLAGS[DIR_V_QUAL_HEAD]
  3     AND NOT .QUAL_FLAGS[DIR_V_QUAL_GRAN]
  3     THEN
  4         BEGIN
  4         WRITE (0, '');
  4         WRITE (DIR$_NEWDIRECT, 0, .PREV_DIR_LEN, PREV_DIR);
  4          IF NOT .QUAL_FLAGS[DIR_V_QUAL_TOTL] THEN WRITE (0, '');
  3         END;
  2     END;
  2
  2 ! Check for another version of the same file.
  2
  2 IF .VERSION_COUNT GTR 0
  2 THEN
  3     BEGIN
  3     IF CH$EQL (.PREV_FILE_LEN, PREV_FILE,
  3               .NAME_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], 0)
  3     THEN VERSION_INDEX = .VERSION_INDEX + 1
  3     ELSE
  4         BEGIN
  4         PREV_FILE_LEN = .NAME_LEN;
  4         CH$MOVE (.NAME_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], PREV_FILE);
  4         VERSION_INDEX = 0;
  3         END;
  3     IF .VERSION_INDEX GEQ .VERSION_COUNT THEN RETURN 1;
  2     END;
  2
  2 ! Update the running totals.
  2
  2 TOTAL_USED = .TOTAL_USED + .DISPLAY_BLOCK[DIR_L_EFBLK];
  2 TOTAL_ALLOC = .TOTAL_ALLOC + .DISPLAY_BLOCK[DIR_L_HIBLK];
  2 TOTAL_FILES = .TOTAL_FILES + 1;
  2
  2 IF .QUAL_FLAGS[DIR_V_QUAL_TOTL] OR .QUAL_FLAGS[DIR_V_QUAL_GRAN] THEN RETURN 1;
  2
  2 ! Build the line using the requested informatation.
  2
  2 IF .COLUMN_INDEX GEQ .COLUMN_COUNT
  2 THEN
  3     BEGIN
  3     IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN DIR$OUTPUT (0, LINE_DESC);
  3     COLUMN_INDEX = 0;
  2     END;
  2 COLUMN_BEGIN = MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
  2
  2 IF NOT .QUAL_FLAGS[DIR_V_QUAL_HEAD]
  2 THEN APPEND (0, '!AD', .HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME]);
P 2 APPEND (0, '!AD', .FILENAME_LEN, VECTOR [DISPLAY_BLOCK[DIR_T_FILENAME],
  2                                           .HEADER_LEN; ,BYTE]);
  2 IF .LINE_DESC[DSC$W_LENGTH] GEQ .DISPLAY_WIDTH
  2 THEN
```

```
;  962          1358 3          BEGIN
;  963          1359 3          LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
;  964          1360 3          DIR$OUTPUT (0, [INE_DESC);
;  965          1361 3          COLUMN_BEGIN = MARK_POSITION = 0;
;  966          1362 3          COLUMN_INDEX = 0;
;  967          1363 3          IF NOT .QUAL_FLAGS[DIR_V_QUAL_HEAD]
;  968          1364 3          THEN APPEND (0, '!AD', .HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME]);
;  969        P 1365 3          APPEND (0, '!AD', .FILENAME_LEN, VECTOR [DISPLAY_BLOCK[DIR_T_FILENAME],
;  970          1366 3                                                  .HEADER_[EN; ,BYTE]);
;  971          1367 2          END;
;  972          1368 2
;  973          1369 2      SPACE_COUNT = .FILENAME_WIDTH - .LINE_DESC[DSC$W_LENGTH] +
;  974          1370 2                                      .MARK_POSITION;
;  975          1371 2      IF .SPACE_COUNT LEQ 0
;  976          1372 2      THEN
;  977          1373 3          BEGIN
;  978          1374 3          IF .COLUMN_COUNT EQL 1
;  979          1375 3          THEN
;  980          1376 4              BEGIN
;  981          1377 4              DIR$OUTPUT (0, LINE_DESC);
;  982          1378 4              COLUMN_BEGIN = 0;
;  983          1379 4              IF .QUAL_FLAGS[DIR_V_QUAL_FID] OR .QUAL_FLAGS[DIR_V_QUAL_SIZE]
;  984          1380 4              OR .QUAL_FLAGS[DIR_V_QUAL_DATE] OR .QUA[_FLAGS[DIR_V_QUA[_OWNE]
;  985          1381 4              OR .QUAL_FLAGS[DIR_V_QUAL_PROT]
;  986          1382 4              THEN APPEND (0, '!#* ', .FILENAME_WIDTH);
;  987          1383 4              END
;  988          1384 3          ELSE
;  989          1385 4              BEGIN
;  990          1386 4              IF .QUAL_FLAGS[DIR_V_QUAL_BRIE]
;  991          1387 4              AND NOT .QUAL_FLAGS[DIR_V_QUAL_SIZE]
;  992          1388 4              AND NOT .QUAL_FLAGS[DIR_V_QUAL_DATE]
;  993          1389 4              AND NOT .QUAL_FLAGS[DIR_V_QUAL_OWNE]
;  994          1390 4              AND NOT .QUAL_FLAGS[DIR_V_QUAL_PROT]
;  995          1391 4              AND NOT .QUAL_FLAGS[DIR_V_QUAL_FID]
;  996          1392 4              THEN
;  997          1393 5                  BEGIN
;  998          1394 5                  COLUMN_INDEX = .COLUMN_INDEX +
;  999          1395 6                                 ((.LINE_DESC[DSC$W_LENGTH] - .COLUMN_BEGIN) /
; 1000          1396 5                                 .COLUMN_WIDTH);
; 1001          1397 5                  COLUMN_BEGIN = .COLUMN_BEGIN +
; 1002          1398 6                                 ((.LINE_DESC[DSC$W_LENGTH] - .COLUMN_BEGIN) /
; 1003          1399 5                                 .COLUMN_WIDTH) * .COLUMN_WIDTH;
; 1004          1400 5                  END
; 1005          1401 4              ELSE
; 1006          1402 5                  BEGIN
; 1007          1403 5                  LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION + .FILENAME_WIDTH;
; 1008          1404 5                  LINE_BUFFER[.LINE_DESC[DSC$W_LENGTH] - 1] = '!'
; 1009          1405 4                  END;
; 1010          1406 3              END;
; 1011          1407 3          END
; 1012          1408 2      ELSE APPEND (0, '!#* ', .SPACE_COUNT);
; 1013          1409 2
; 1014          1410 2      ! Check to see if an error occurred opening the file.
; 1015          1411 2
; 1016          1412 2      IF NOT .DISPLAY_BLOCK[DIR_L_STATUS]
; 1017          1413 2      THEN
; 1018          1414 3          BEGIN
; 1019          1415  3         CH$FILL (0, DSC$C_S_BLN, LOCAL_DESC);
; 1020          1416  3         LOCAL_DESC[DSC$W_LENGTH] = 1024 - .LINE_DESC[DSC$W_LENGTH];
; 1021          1417  3         LOCAL_DESC[DSC$A_POINTER] = LINE_BUFFER[.LINE_DESC[DSC$W_LENGTH]];
; 1022        P 1418  3         $GETMSG (MSGID = .DISPLAY_BLOCK[DIR_L_STATUS],
; 1023        P 1419  3                 MSGLEN = LOCAL_DESC,
; 1024        P 1420  3                 BUFADR = LOCAL_DESC,
; 1025          1421  3                 FLAGS = 1);
; 1026          1422  3         LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] + .LOCAL_DESC[DSC$W_LENGTH];
; 1027          1423  3         IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1028          1424  3         THEN
; 1029          1425  4             BEGIN
; 1030          1426  4             LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1031          1427  4             IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN DIR$OUTPUT (0, LINE_DESC);
; 1032          1428  4             LINE_DESC[DSC$W_LENGTH] = .LOCAL_DESC[DSC$A_POINTER] +
; 1033          1429  4                                       .LOCAL_DESC[DSC$W_LENGTH] -
; 1034          1430  4                                       LINE_BUFFER[.MARK_POSITION];
; 1035          1431  4             CH$MOVE (.LINE_DESC[DSC$W_LENGTH], LINE_BUFFER[.MARK_POSITION],
; 1036          1432  4                                                LINE_BUFFER);
; 1037          1433  3             END;
; 1038          1434  3         DIR$OUTPUT (0, LINE_DESC);
; 1039          1435  3         COLUMN_INDEX = 0;
; 1040          1436  3         RETURN 1;
; 1041          1437  2         END;
; 1042          1438  2
; 1043          1439  2 ! No errors were encountered.  Fill the line with the requested information.
; 1044          1440  2
; 1045          1441  2 IF .QUAL_FLAGS[DIR_V_QUAL_FID]
; 1046          1442  2 THEN
; 1047          1443  3     BEGIN
; 1048          1444  3     IF .DISPLAY_BLOCK[DIR_W_FID_NUM] NEQ 0
; 1049          1445  3     OR .DISPLAY_BLOCK[DIR_W_FID_SEQ] NEQ 0
; 1050          1446  3     OR .DISPLAY_BLOCK[DIR_W_FID_RVN] NEQ 0
; 1051        P 1447  3     THEN APPEND (0, '  !19<(!UW,!UW,!UW)!>', .DISPLAY_BLOCK[DIR_W_FID_NUM],
; 1052        P 1448  3                                              .DISPLAY_BLOCK[DIR_W_FID_SEQ],
; 1053          1449  3                                              .DISPLAY_BLOCK[DIR_W_FID_RVN])
; 1054          1450  3     ELSE APPEND (DIR$_NOBRFILEID);
; 1055          1451  2     END;
; 1056          1452  2
; 1057          1453  2 IF .QUAL_FLAGS[DIR_V_QUAL_SIZE]
; 1058          1454  2 THEN
; 1059          1455  3     BEGIN
; 1060          1456  3     IF .QUAL_FLAGS[DIR_V_SIZE_ALL]
; 1061        P 1457  3     THEN APPEND (0, '  !#UL/!#<!UL!>', .SIZE_WIDTH,
; 1062        P 1458  3                                        .DISPLAY_BLOCK[DIR_L_EFBLK],
; 1063        P 1459  3                                        .SIZE_WIDTH,
; 1064          1460  3                                        .DISPLAY_BLOCK[DIR_L_HIBLK])
; 1065        P 1461  3     ELSE APPEND (0, '  !#UL', .SIZE_WIDTH,
; 1066        P 1462  3                              (IF .QUAL_FLAGS[DIR_V_SIZE_USED]
; 1067        P 1463  3                              THEN .DISPLAY_BLOCK[DIR_L_EFBLK]
; 1068          1464  3                              ELSE .DISPLAY_BLOCK[DIR_L_HIBLK]));
; 1069          1465  2     END;
; 1070          1466  2
; 1071          1467  2 IF .QUAL_FLAGS[DIR_V_QUAL_DATE]
; 1072          1468  2 THEN
; 1073          1469  3     BEGIN
; 1074          1470  3     IF .QUAL_FLAGS[DIR_V_DATE_CRE]
; 1075          1471  3     THEN IF .DISPLAY_BLOCK[DIR_L_CDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_CDT4] EQL 0
```

```
3              THEN APPEND (DIR$_NOBRCREDAT)
3              ELSE APPEND (0, '   !17%D', DISPLAY_BLOCK[DIR_L_CDT0]);
3       IF .QUAL_FLAGS[DIR_V_DATE_MOD]
3       THEN IF .DISPLAY_BLOCK[DIR_L_RDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_RDT4] EQL 0
3              THEN APPEND (DIR$_NOBRREVDAT)
3              ELSE APPEND (0, '   !17%D', DISPLAY_BLOCK[DIR_L_RDT0]);
3       IF .QUAL_FLAGS[DIR_V_DATE_EXP]
3       THEN IF .DISPLAY_BLOCK[DIR_L_EDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_EDT4] EQL 0
3              THEN APPEND (DIR$_NOBREXPDAT)
3              ELSE APPEND (0, '   !17%D', DISPLAY_BLOCK[DIR_L_EDT0]);
3       IF .QUAL_FLAGS[DIR_V_DATE_BAK]
3       THEN IF .DISPLAY_BLOCK[DIR_L_BDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_BDT4] EQL 0
3              THEN APPEND (DIR$_NOBRBAKDAT)
3              ELSE APPEND (0, '   !17%D', DISPLAY_BLOCK[DIR_L_BDT0]);
2       END;
2   MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2
2   IF .QUAL_FLAGS[DIR_V_QUAL_OWNE]
2   THEN IF .DISPLAY_BLOCK[DIR_B_NODE] EQL 0
2          THEN APPEND (0, '  !#<!%I!>', .OWNER_WIDTH, .DISPLAY_BLOCK[DIR_L_FILEOWNER])
2          ELSE APPEND (0, '  !#%U', .OWNER_WIDTH, .DISPLAY_BLOCK[DIR_L_FILEOWNER]);
2
2   IF .QUAL_FLAGS[DIR_V_QUAL_PROT]
2   THEN
3       BEGIN
3       APPEND (0, '  (');
3       INCR J FROM 0 TO 3
3       DO
4           BEGIN
4           DIR$APPEND (0, .PROT_TABLE[.(DISPLAY_BLOCK[DIR_W_FILEPROT])<.J*4,4>]);
4           IF .J LSS 3 THEN APPEND (0, ',');
3           END;
3       APPEND (0, ')');
2       END;
2
2   IF .QUAL_FLAGS[DIR_V_QUAL_ACL] AND .ACL_LENGTH GTR 0
2   THEN
3       BEGIN
3       IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN DIR$OUTPUT (0, LINE_DESC);
3       DIR$SHOW_ACL ();
2       END;
2
2   COLUMN_INDEX = .COLUMN_INDEX + 1;
2   SPACE_COUNT = .COLUMN_WIDTH - .LINE_DESC[DSC$W_LENGTH] + .COLUMN_BEGIN;
2   IF .COLUMN_COUNT GTR 1
2   AND .COLUMN_INDEX LSS .COLUMN_COUNT
2   THEN APPEND (0, '!#* ', .SPACE_COUNT);
2
2   RETURN 1;
2
1   END;                                                  ! End of routine DIR$SHOW_INFO


                                                              .PSECT  $PLIT$,NOWRT,NOEXE,2

                                             000BC P.ABH:  .BLKB   0                                 ;
```

```
                                                  00000000. 000BC P.ABG:  .LONG    0                                       ;
                                                  00000000' 000C0         .ADDRESS P.ABH                                   ;
                                                        00  000C4 P.ABJ:  .BYTE    0                                       ;
                                                            000C5         .BLKB    3
                                                  00000001. 000C8 P.ABI:  .LONG    1                                       ;
                                                  00000000' 000CC         .ADDRESS P.ABJ                                   ;
                                                            000D0 P.ABL:  .BLKB    0                                       ;
                                                  00000000. 000D0 P.ABK:  .LONG    0                                       ;
                                                  00000000' 000D4         .ADDRESS P.ABL                                   ;
                                                44  41  21  000D8 P.ABN:  .ASCII  \!AD\                                    ;
                                                            000DB         .BLKB    1
                                                  00000003. 000DC P.ABM:  .LONG    3                                       ;
                                                  00000000' 000E0         .ADDRESS P.ABN                                   ;
                                                44  41  21  000E4 P.ABP:  .ASCII  \!AD\                                    ;
                                                            000E7         .BLKB    1
                                                  00000003. 000E8 P.ABO:  .LONG    3                                       ;
                                                  00000000' 000EC         .ADDRESS P.ABP                                   ;
                                                44  41  21  000F0 P.ABR:  .ASCII  \!AD\                                    ;
                                                            000F3         .BLKB    1
                                                  00000003. 000F4 P.ABQ:  .LONG    3                                       ;
                                                  00000000' 000F8         .ADDRESS P.ABR                                   ;
                                                44  41  21  000FC P.ABT:  .ASCII  \!AD\                                    ;
                                                            000FF         .BLKB    1
                                                  00000003. 00100 P.ABS:  .LONG    3                                       ;
                                                  00000000' 00104         .ADDRESS P.ABT                                   ;
                                            20  2A  23  21  00108 P.ABV:  .ASCII  \!#* \                                   ;
                                                  00000004  0010C P.ABU:  .LONG    4                                       ;
                                                  00000000' 00110         .ADDRESS P.ABV                                   ;
                                            20  2A  23  21  00114 P.ABX:  .ASCII  \!#* \                                   ;
                                                  00000004  00118 P.ABW:  .LONG    4                                       ;
                                                  00000000' 0011C         .ADDRESS P.ABX                                   ;
2C  57  55  21  2C  57  55  21  28  3C  39  31  21  20  20  00120 P.ABZ:  .ASCII  \  !19<(!UW,!UW,!UW)!>\                  ;
                                    3E  21  29  57  55  21  0012F                                                          ;
                                                            00135         .BLKB    3
                                                  00000015. 00138 P.ABY:  .LONG    21                                      ;
                                                  00000000' 0013C         .ADDRESS P.ABZ                                   ;
3E  21  4C  55  21  3C  23  21  2F  4C  55  23  21  20  20  00140 P.ACB:  .ASCII  \  !#UL/!#<!UL!>\                        ;
                                                            0014F         .BLKB    1
                                                  0000000F. 00150 P.ACA:  .LONG    15                                      ;
                                                  00000000' 00154         .ADDRESS P.ACB                                   ;
                                    4C  55  23  21  20  20  00158 P.ACD:  .ASCII  \  !#UL\                                 ;
                                                            0015E         .BLKB    2
                                                  00000006. 00160 P.ACC:  .LONG    6                                       ;
                                                  00000000' 00164         .ADDRESS P.ACD                                   ;
                                44  25  37  31  21  20  20  00168 P.ACF:  .ASCII  \  !17%D\                                ;
                                                            0016F         .BLKB    1
                                                  00000007. 00170 P.ACE:  .LONG    7                                       ;
                                                  00000000' 00174         .ADDRESS P.ACF                                   ;
                                44  25  37  31  21  20  20  00178 P.ACH:  .ASCII  \  !17%D\                                ;
                                                            0017F         .BLKB    1
                                                  00000007. 00180 P.ACG:  .LONG    7                                       ;
                                                  00000000' 00184         .ADDRESS P.ACH                                   ;
                                44  25  37  31  21  20  20  00188 P.ACJ:  .ASCII  \  !17%D\                                ;
                                                            0018F         .BLKB    1
                                                  00000007. 00190 P.ACI:  .LONG    7                                       ;
                                                  00000000' 00194         .ADDRESS P.ACJ                                   ;
                                44  25  37  31  21  20  20  00198 P.ACL:  .ASCII  \  !17%D\                                ;
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                                                0019F           .BLKB    1
                                    00000007    001A0 P.ACK:    .LONG    7                                   ;
                                    00000000'   001A4           .ADDRESS P.ACL                               ;
      3E  21  49  25  21  3C  23  21  20  20    001A8 P.ACN:    .ASCII   \  !#<!%I!>\                        ;
                                                001B2           .BLKB    2
                                    0000000A    001B4 P.ACM:    .LONG    10                                  ;
                                    00000000'   001B8           .ADDRESS P.ACN                               ;
                      55  25  23  21  20  20    001BC P.ACP:    .ASCII   \  !#%U\                            ;
                                                001C2           .BLKB    2
                                    00000006    001C4 P.ACO:    .LONG    6                                   ;
                                    00000000'   001C8           .ADDRESS P.ACP                               ;
                                  28  20  20    001CC P.ACR:    .ASCII   \  (\                               ;
                                                001CF           .BLKB    1
                                    00000003    001D0 P.ACQ:    .LONG    3                                   ;
                                    C0000000'   001D4           .ADDRESS P.ACR                               ;
                                          2C    001D8 P.ACT:    .ASCII   \,\                                 ;
                                                001D9           .BLKB    3
                                    00000001    001DC P.ACS:    .LONG    1                                   ;
                                    00000000'   001E0           .ADDRESS P.ACT                               ;
                                          29    001E4 P.ACV:    .ASCII   \)\                                 ;
                                                001E5           .BLKB    3
                                    00000001    001E8 P.ACU:    .LONG    1                                   ;
                                    00000000'   001EC           .ADDRESS P.ACV                               ;
                          20  2A  23  21        001F0 P.ACX:    .ASCII   \!#* \                              ;
                                    00000004    001F4 P.ACW:    .LONG    4                                   ;
                                    00000000'   001F8           .ADDRESS P.ACX                               ;

                                                                .EXTRN   DIR$OUTPUT, SYS$GETMSG

                                                                .PSECT   $CODE$,NOWRT,2

                                          0FFC  00000 DIR$SHOW_INFO:
                                                                .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11       ; 1244
                            5B      0000V   CF  9E 00002        MOVAB    DIR$APPEND, R11                            ;
                            5A  00000000'   EF  9E 00007        MOVAB    QUAL_FLAGS, R10                            ;
                            5E              08  C2 0000E        SUBL2    #8, SP                                     ;
                            50         1C   AA  D0 00011        MOVL     DISPLAY_BLOCK, R0                          ; 1289
                            51       0119   C0  9A 00015        MOVZBL   281(R0), R1                                ; 1290
                            52       011A   C0  9A 0001A        MOVZBL   282(R0), R2                                ;
                            51              52  C0 0001F        ADDL2    R2, R1                                     ;
                            56       011B   C0  9A 00022        MOVZBL   283(R0), HEADER_LEN                        ; 1291
                            56              51  C0 00027        ADDL2    R1, HEADER_LEN                             ;
                            59         18   A0  9A 0002A        MOVZBL   24(R0), FILENAME_LEN                       ; 1292
                            59              56  C2 0002E        SUBL2    HEADER_LEN, FILENAME_LEN                   ;
                            58         18   A0  9A 00031        MOVZBL   24(R0), NAME_LEN                           ; 1293
                            51       011C   C0  9A 00035        MOVZBL   284(R0), R1                                ;
                            58              51  C2 0003A        SUBL2    R1, NAME_LEN                               ;
  56          00      0458  CA       0558   CA  2D 0003D        CMPC5    PREV_DIR_LEN, PREV_DIR, #0, HEADER_LEN, -  ; 1295
                                       19   A0     00046                 25(R0)                                     ;
                                            69  13 00048        BEQL     3$                                         ;
                                       34   AA  B5 0004A        TSTW     LINE_DESC                                  ; 1298
                                            0D  13 0004D        BEQL     1$                                         ;
                                       34   AA  9F 0004F        PUSHAB   LINE_DESC                                  ; 1301
                                            7E  D4 00052        CLRL     -(SP)                                      ;
                      0000G  CF             02  FB 00054        CALLS    #2, DIR$OUTPUT                             ;
                                       0C   AA  D4 00059        CLRL     COLUMN_INDEX                               ; 1302
                                     0558   CA  D5 0005C 1$:    TSTL     PREV_DIR_LEN                               ; 1304
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                                          05  13 00060        BEQL    2$                                      ;
                   0000V  CF              00  FB 00062        CALLS   #0, DIR$TOTAL                           ;
                   0558   CA              56  D0 00067 2$:    MOVL    HEADER_LEN, PREV_DIR_LEN                ; 1305
                     50            1C     AA  D0 0006C        MOVL    DISPLAY_BLOCK, R0                       ; 1306
          0458  CA   19   A0              56  28 00070        MOVC3   HEADER_LEN, 25(R0), PREV_DIR            ;
                37   01   AA              03  E1 00077        BBC     #3, QUAL_FLAGS+1, 3$                    ; 1307
                32   01   AA              02  E0 0007C        BBS     #2, QUAL_FLAGS+1, 3$                    ; 1308
                                 0000'    CF  9F 00081        PUSHAB  P.ABG                                   ; 1311
                                          7E  D4 00085        CLRL    -(SP)                                   ;
                   0000G  CF              02  FB 00087        CALLS   #2, DIR$OUTPUT                          ;
                                  0458    CA  9F 0008C        PUSHAB  PREV_DIR                                ; 1312
                                  0558    CA  DD 00090        PUSHL   PREV_DIR_LEN                            ;
                                 0000'    CF  9F 00094        PUSHAB  P.ABI                                   ;
                             00000000G    8F  DD 00098        PUSHL   #DIR$_NEWDIRECT                         ;
                   0000G  CF              04  FB 0009E        CALLS   #4, DIR$OUTPUT                          ;
                                    02    AA  95 000A3        TSTB    QUAL_FLAGS+2                            ; 1313
                                          0B  19 000A6        BLSS    3$                                      ;
                                 0000'    CF  9F 000A8        PUSHAB  P.ABK                                   ;
                                          7E  D4 000AC        CLRL    -(SP)                                   ;
                   0000G  CF              02  FB 000AE        CALLS   #2, DIR$OUTPUT                          ;
                          57      0660    CA  D0 000B3 3$:    MOVL    VERSION_COUNT, R7                       ; 1319
                                          31  15 000B8        BLEQ    7$                                      ;
                          54        1C    AA  D0 000BA        MOVL    DISPLAY_BLOCK, R4                       ; 1323
  58            00   055C CA      065C    CA  2D 000BE        CMPC5   PREV_FILE_LEN, PREV_FILE, #0, NAME_LEN, - ;
                                    19    A4     000C7                25(R4)                                  ;
                                          06  12 000C9        BNEQ    4$                                      ;
                                  0664    CA  D6 000CB        INCL    VERSION_INDEX                           ; 1324
                                          10  11 000CF        BRB     5$                                      ;
                   065C   CA              58  D0 000D1 4$:    MOVL    NAME_LEN, PREV_FILE_LEN                 ; 1327
          055C  CA   19   A4              58  28 000D6        MOVC3   NAME_LEN, 25(R4), PREV_FILE             ; 1328
                                  0664    CA  D4 000DD        CLRL    VERSION_INDEX                           ; 1329
                          57      0664    CA  D1 000E1 5$:    CMPL    VERSION_INDEX, R7                       ; 1331
                                          03  19 000E6        BLSS    7$                                      ;
                                        03AF  31 000E8 6$:    BRW     46$                                     ;
                          50        1C    AA  D0 000EB 7$:    MOVL    DISPLAY_BLOCK, R0                       ; 1336
                   043C   CA      0131    C0  C0 000EF        ADDL2   305(R0), TOTAL_USED                     ;
                   0440   CA      012D    C0  C0 000F6        ADDL2   301(R0), TOTAL_ALLOC                    ; 1337
                                  0444    CA  D6 000FD        INCL    TOTAL_FILES                             ; 1338
                                    02    AA  95 00101        TSTB    QUAL_FLAGS+2                            ; 1340
                                          E2  19 00104        BLSS    6$                                      ;
                DD   01   AA              02  E0 00106        BBS     #2, QUAL_FLAGS+1, 6$                    ;
                     08   AA        0C    AA  D1 0010B        CMPL    COLUMN_INDEX, COLUMN_COUNT              ; 1344
                                          12  19 00110        BLSS    9$                                      ;
                                    34    AA  B5 00112        TSTW    LINE_DESC                               ; 1347
                                          0A  13 00115        BEQL    8$                                      ;
                                    34    AA  9F 00117        PUSHAB  LINE_DESC                               ;
                                          7E  D4 0011A        CLRL    -(SP)                                   ;
                   0000G  CF              02  FB 0011C        CALLS   #2, DIR$OUTPUT                          ;
                                    0C    AA  D4 00121 8$:    CLRL    COLUMN_INDEX                            ; 1348
                          57        34    AA  3C 00124 9$:    MOVZWL  LINE_DESC, MARK_POSITION                ; 1350
                          58              57  D0 00128        MOVL    MARK_POSITION, COLUMN_BEGIN             ;
                10   01   AA              03  E0 0012B        BBS     #3, QUAL_FLAGS+1, 10$                   ; 1352
                7E   1C   AA              19  C1 00130        ADDL3   #25, DISPLAY_BLOCK, -(SP)               ; 1353
                                          56  DD 00135        PUSHL   HEADER_LEN                              ;
                                 0000'    CF  9F 00137        PUSHAB  P.ABM                                   ;
                                          7E  D4 0013B        CLRL    -(SP)                                   ;
                          6B              04  FB 0013D        CALLS   #4, DIR$APPEND                          ;
                          50              56      1C    AA  C1 00140 10$:   ADDL3   DISPLAY_BLOCK, HEADER_LEN, R0               ; 1355
                                                  19    A0  9F 00145        PUSHAB  25(R0)                                      ;
                                                        59  DD 00148        PUSHL   FILENAME_LEN                                ;
                                               0000'    CF  9F 0014A        PUSHAB  P.ABO                                       ;
                                                        7E  D4 0014E        CLRL    -(SP)                                       ;
                                          6B            04  FB 00150        CALLS   #4, DIR$APPEND                              ;
    0814    CA      34    AA                      10    00  ED 00153        CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH           ; 1356
                                                        3B  19 0015B        BLSS    12$                                         ;
                                    34    AA            57  B0 0015D        MOVW    MARK_POSITION, LINE_DESC                    ; 1359
                                                  34    AA  9F 00161        PUSHAB  LINE_DESC                                   ; 1360
                                                        7E  D4 00164        CLRL    -(SP)                                       ;
                                 0000G    CF            02  FB 00166        CALLS   #2, DIR$OUTPUT                              ;
                                                        57  7C 0016B        CLRQ    MARK_POSITION                               ; 1361
                                                  0C    AA  D4 0016D        CLRL    COLUMN_INDEX                                ; 1362
                          10      01    AA              03  E0 00170        BBS     #3, QUAL_FLAGS+1, 11$                       ; 1363
                          7E      1C    AA              19  C1 00175        ADDL3   #25, DISPLAY_BLOCK, -(SP)                   ; 1364
                                                        56  DD 0017A        PUSHL   HEADER_LEN                                  ;
                                               0000'    CF  9F 0017C        PUSHAB  P.ABQ                                       ;
                                                        7E  D4 00180        CLRL    -(SP)                                       ;
                                          6B            04  FB 00182        CALLS   #4, DIR$APPEND                              ;
                          50              56      1C    AA  C1 00185 11$:   ADDL3   DISPLAY_BLOCK, HEADER_LEN, R0               ; 1366
                                                  19    A0  9F 0018A        PUSHAB  25(R0)                                      ;
                                                        59  DD 0018D        PUSHL   FILENAME_LEN                                ;
                                               0000'    CF  9F 0018F        PUSHAB  P.ABS                                       ;
                                                        7E  D4 00193        CLRL    -(SP)                                       ;
                                          6B            04  FB 00195        CALLS   #4, DIR$APPEND                              ;
                                          50      34    AA  3C 00198 12$:   MOVZWL  LINE_DESC, R0                               ; 1369
                          50    0818      CA            50  C3 0019C        SUBL3   R0, FILENAME_WIDTH, R0                      ;
                          56              50            57  C1 001A2        ADDL3   MARK_POSITION, R0, SPACE_COUNT              ; 1370
                                                        79  14 001A6        BGTR    16$                                         ; 1371
                                          01      08    AA  D1 001A8        CMPL    COLUMN_COUNT, #1                            ; 1374
                                                        2D  12 001AC        BNEQ    14$                                         ;
                                                  34    AA  9F 001AE        PUSHAB  LINE_DESC                                   ; 1377
                                                        7E  D4 001B1        CLRL    -(SP)                                       ;
                                 0000G    CF            02  FB 001B3        CALLS   #2, DIR$OUTPUT                              ;
                                                        58  D4 001B8        CLRL    COLUMN_BEGIN                                ; 1378
                                          13      01    AA  E8 001BA        BLBS    QUAL_FLAGS+1, 13$                           ; 1379
                          0E      02      AA            03  E0 001BE        BBS     #3, QUAL_FLAGS+2, 13$                       ;
                          0A              6A            03  E0 001C3        BBS     #3, QUAL_FLAGS, 13$                         ; 1380
                          05      01      AA            05  E0 001C7        BBS     #5, QUAL_FLAGS+1, 13$                       ;
                                                  01    AA  95 001CC        TSTB    QUAL_FLAGS+1                                ; 1381
                                                        5B  18 001CF        BGEQ    18$                                         ;
                                                0818    CA  DD 001D1 13$:   PUSHL   FILENAME_WIDTH                              ; 1382
                                               0000'    CF  9F 001D5        PUSHAB  P.ABU                                       ;
                                                        4C  11 001D9        BRB     17$                                         ;
                          2F              6A            01  E1 001DB 14$:   BBC     #1, QUAL_FLAGS, 15$                         ; 1386
                          2A      02      AA            03  E0 001DF        BBS     #3, QUAL_FLAGS+2, 15$                       ; 1387
                          26              6A            03  E0 001E4        BBS     #3, QUAL_FLAGS, 15$                         ; 1388
                          21      01      AA            05  E0 001E8        BBS     #5, QUAL_FLAGS+1, 15$                       ; 1389
                                                  01    AA  95 001ED        TSTB    QUAL_FLAGS+1                                ; 1390
                                                        1C  19 001F0        BLSS    15$                                         ;
                                          18      01    AA  E8 001F2        BLBS    QUAL_FLAGS+1, 15$                           ; 1391
                                          50      34    AA  3C 001F6        MOVZWL  LINE_DESC, R0                               ; 1395
                                          50            58  C2 001FA        SUBL2   COLUMN_BEGIN, R0                            ;
                                          50      10    AA  C6 001FD        DIVL2   COLUMN_WIDTH, R0                            ; 1396
                                  0C      AA            50  C0 00201        ADDL2   R0, COLUMN_INDEX                            ; 1395
                                          50      10    AA  C4 00205        MULL2   COLUMN_WIDTH, R0                            ; 1399
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                                        58            50  C0 00209         ADDL2   R0, COLUMN_BEGIN                             ;
                                                      1E  11 0020C         BRB     18$                                          ; 1386
                    34    AA            57     0818   CA  A1 0020E 15$:    ADDW3   FILENAME_WIDTH, MARK_POSITION, LINE_DESC     ; 1403
                                        50       34   AA  3C 00215         MOVZWL  LINE_DESC, R0                                ; 1404
                                   3B AA40       7C   8F  90 00219         MOVB    #124, LINE_BUFFER-1[R0]                      ;
                                                      0B  11 0021F         BRB     18$                                          ; 1371
                                                      56  DD 00221 16$:    PUSHL   SPACE_COUNT                                  ; 1408
                                               0000'  CF  9F 00223         PUSHAB  P.ABW                                        ;
                                                      7E  D4 00227 17$:    CLRL    -(SP)                                        ;
                                        6B            03  FB 00229         CALLS   #3, DIR$APPEND                               ;
                                        72       1C   BA  E8 0022C 18$:    BLBS    @DISPLAY_BLOCK, 21$                          ; 1412
           08             00            6E            00  2C 00230         MOVC5   #0, (SP), #0, #8, LOCAL_DESC                 ; 1415
                                                      6E     00235                                                              ;
                          6E     0400   8F       34   AA  A3 00236         SUBW3   LINE_DESC, #1024, LOCAL_DESC                 ; 1416
                                        50       3C   AA  9E 0023D         MOVAB   LINE_BUFFER, R0                              ; 1417
                                        51       34   AA  3C 00241         MOVZWL  LINE_DESC, R1                                ;
                    04    AE            50            51  C1 00245         ADDL3   R1, R0, LOCAL_DESC+4                         ;
                                        7E            01  7D 0024A         MOVQ    #1, -(SP)                                    ; 1421
                                                 08   AE  9F 0024D         PUSHAB  LOCAL_DESC                                   ;
                                                 0C   AE  9F 00250         PUSHAB  LOCAL_DESC                                   ;
                                                 1C   BA  DD 00253         PUSHL   @DISPLAY_BLOCK                               ;
                            00000000G   00            05  FB 00256         CALLS   #5, SYS$GETMSG                               ;
                                   34   AA            6E  A0 0025D         ADDW2   LOCAL_DESC, LINE_DESC                        ; 1422
    0814   CA       34    AA            10            00  ED 00261         CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH            ; 1423
                                                      27  15 00269         BLEQ    20$                                          ;
                                   34   AA            57  B0 0026B         MOVW    MARK_POSITION, LINE_DESC                     ; 1426
                                                      0A  13 0026F         BEQL    19$                                          ; 1427
                                                 34   AA  9F 00271         PUSHAB  LINE_DESC                                    ;
                                                      7E  D4 00274         CLRL    -(SP)                                        ;
                                0000G   CF            02  FB 00276         CALLS   #2, DIR$OUTPUT                               ;
                                        51            6E  3C 0027B 19$:    MOVZWL  LOCAL_DESC, R1                               ; 1429
                                        51       04   AE  C0 0027E         ADDL2   LOCAL_DESC+4, R1                             ;
                                        50       3C AA47  9E 00282         MOVAB   LINE_BUFFER[MARK_POSITION], R0               ; 1430
                    34    AA            51            50  A3 00287         SUBW3   R0, R1, LINE_DESC                            ;
                    3C    AA            60       34   AA  28 0028C         MOVC3   LINE_DESC, (R0), LINE_BUFFER                 ; 1431
                                                 34   AA  9F 00292 20$:    PUSHAB  LINE_DESC                                    ; 1434
                                                      7E  D4 00295         CLRL    -(SP)                                        ;
                                0000G   CF            02  FB 00297         CALLS   #2, DIR$OUTPUT                               ;
                                                 0C   AA  D4 0029C         CLRL    COLUMN_INDEX                                 ; 1435
                                                    01F8  31 0029F         BRW     46$                                          ; 1436
                                        37       01   AA  E9 002A2 21$:    BLBC    QUAL_FLAGS+1, 24$                            ; 1441
                                        50       1C   AA  D0 002A6         MOVL    DISPLAY_BLOCK, R0                            ; 1444
                                        51     0123   C0  3C 002AA         MOVZWL  291(R0), R1                                  ;
                                                      0C  12 002AF         BNEQ    22$                                          ;
                                               0125   C0  B5 002B1         TSTW    293(R0)                                      ; 1445
                                                      06  12 002B5         BNEQ    22$                                          ;
                                               0127   C0  B5 002B7         TSTW    295(R0)                                      ; 1446
                                                      17  13 002BB         BEQL    23$                                          ;
                                        7E     0127   C0  3C 002BD 22$:    MOVZWL  295(R0), -(SP)                               ; 1449
                                        7E     0125   C0  3C 002C2         MOVZWL  293(R0), -(SP)                               ;
                                                      51  DD 002C7         PUSHL   R1                                           ;
                                               0000'  CF  9F 002C9         PUSHAB  P.ABY                                        ;
                                                      7E  D4 002CD         CLRL    -(SP)                                        ;
                                        6B            05  FB 002CF         CALLS   #5, DIR$APPEND                               ;
                                                      09  11 002D2         BRB     24$                                          ;
                                           00000000G  8F  DD 002D4 23$:    PUSHL   #DIR$_NOBRFILEID                             ; 1450
                                        6B            01  FB 002DA         CALLS   #1, DIR$APPEND                               ;
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3F        02   AA              03  E1 002DD 24$:     BBC     #3, QUAL_FLAGS+2, 28$                    ; 1453
               50         1C   AA  D0 002E2          MOVL    DISPLAY_BLOCK, R0                        ; 1460
               51       0820   CA  D0 002E6          MOVL    SIZE_WIDTH, R1                           ;
17        02   AA              04  E1 002EB          BBC     #4, QUAL_FLAGS+2, 25$                    ; 1456
                        012D   C0  DD 002F0          PUSHL   301(R0)                                  ; 1460
                               51  DD 002F4          PUSHL   R1                                       ;
                        0131   C0  DD 002F6          PUSHL   305(R0)                                  ;
                               51  DD 002FA          PUSHL   R1                                       ;
                        0000'  CF  9F 002FC          PUSHAB  P.ACA                                    ;
                               7E  D4 00300          CLRL    -(SP)                                    ;
               6B              06  FB 00302          CALLS   #6, DIR$APPEND                           ;
                               1A  11 00305          BRB     28$                                      ;
06        02   AA              06  E1 00307 25$:     BBC     #6, QUAL_FLAGS+2, 26$                    ; 1464
                        0131   C0  DD 0030C          PUSHL   305(R0)                                  ;
                               04  11 00310          BRB     27$                                      ;
                        012D   C0  DD 00312 26$:     PUSHL   301(R0)                                  ;
                               51  DD 00316 27$:     PUSHL   R1                                       ;
                        0000'  CF  9F 00318          PUSHAB  P.ACC                                    ;
                               7E  D4 0031C          CLRL    -(SP)                                    ;
               6B              04  FB 0031E          CALLS   #4, DIR$APPEND                           ;
03             6A              03  E0 00321 28$:     BBS     #3, QUAL_FLAGS, 29$                      ; 1467
                          00B0     31 00325          BRW     37$                                      ;
28             6A              04  E1 00328 29$:     BBC     #4, QUAL_FLAGS, 31$                      ; 1470
               50         1C   AA  D0 0032C          MOVL    DISPLAY_BLOCK, R0                        ; 1471
                        0170   C0  D5 00330          TSTL    368(R0)                                  ;
                               11  12 00334          BNEQ    30$                                      ;
                        0174   C0  D5 00336          TSTL    372(R0)                                  ;
                               0B  12 0033A          BNEQ    30$                                      ;
                   00000000G   8F  DD 0033C          PUSHL   #DIR$_NOBRCREDAT                         ; 1472
               6B              01  FB 00342          CALLS   #1, DIR$APPEND                           ;
                               0D  11 00345          BRB     31$                                      ;
                        0170   C0  9F 00347 30$:     PUSHAB  368(R0)                                  ; 1473
                        0000'  CF  9F 0034B          PUSHAB  P.ACE                                    ;
                               7E  D4 0034F          CLRL    -(SP)                                    ;
               6B              03  FB 00351          CALLS   #3, DIR$APPEND                           ;
28             6A              06  E1 00354 31$:     BBC     #6, QUAL_FLAGS, 33$                      ; 1474
               50         1C   AA  D0 00358          MOVL    DISPLAY_BLOCK, R0                        ; 1475
                        0178   C0  D5 0035C          TSTL    376(R0)                                  ;
                               11  12 00360          BNEQ    32$                                      ;
                        017C   C0  D5 00362          TSTL    380(R0)                                  ;
                               0B  12 00366          BNEQ    32$                                      ;
                   00000000G   8F  DD 00368          PUSHL   #DIR$_NOBRREVDAT                         ; 1476
               6B              01  FB 0036E          CALLS   #1, DIR$APPEND                           ;
                               0D  11 00371          BRB     33$                                      ;
                        0178   C0  9F 00373 32$:     PUSHAB  376(R0)                                  ; 1477
                        0000'  CF  9F 00377          PUSHAB  P.ACG                                    ;
                               7E  D4 0037B          CLRL    -(SP)                                    ;
               6B              03  FB 0037D          CALLS   #3, DIR$APPEND                           ;
28             6A              05  E1 00380 33$:     BBC     #5, QUAL_FLAGS, 35$                      ; 1478
               50         1C   AA  D0 00384          MOVL    DISPLAY_BLOCK, R0                        ; 1479
                        0180   C0  D5 00388          TSTL    384(R0)                                  ;
                               11  12 0038C          BNEQ    34$                                      ;
                        0184   C0  D5 0038E          TSTL    388(R0)                                  ;
                               0B  12 00392          BNEQ    34$                                      ;
                   00000000G   8F  DD 00394          PUSHL   #DIR$_NOBREXPDAT                         ; 1480
               6B              01  FB 0039A          CALLS   #1, DIR$APPEND                           ;
                               0D  11 0039D          BRB     35$                                      ;
```

```
                              0180   C0   9F 0039F 34$:    PUSHAB  384(R0)                        ; 1481
                             0000'   CF   9F 003A3         PUSHAB  F.ACI                          :
                                     7E   D4 003A7         CLRL    -(SP)                          :
                        6B           03   FB 003A9         CALLS   #3, DIR$APPEND                 :
                                     6A   95 003AC 35$:    TSTB    QUAL_FLAGS                     ; 1482
                                     28   18 003AE         BGEQ    37$                            :
                        50      1C   AA   D0 003B0         MOVL    DISPLAY_BLOCK, R0              ; 1483
                              0188   C0   D5 003B4         TSTL    392(R0)                        :
                                     11   12 003B8         BNEQ    36$                            :
                              018C   C0   D5 003BA         TSTL    396(R0)                        :
                                     0B   12 003BE         BNEQ    36$                            :
                         00000000G   8F   DD 003C0         PUSHL   #DIR$_NOBRBAKDAT               ; 1484
                        6B           01   FB 003C6         CALLS   #1, DIR$APPEND                 :
                                     0D   11 003C9         BRB     37$                            :
                              0188   C0   9F 003CB 36$:    PUSHAB  392(R0)                        ; 1485
                             0000'   CF   9F 003CF         PUSHAB  P.ACK                          :
                                     7E   D4 003D3         CLRL    -(SP)                          :
                        6B           03   FB 003D5         CALLS   #3, DIR$APPEND                 :
                        57      34   AA   3C 003D8 37$:    MOVZWL  LINE_DESC, MARK_POSITION       ; 1487
         2D        01   AA           05   E1 003DC         BBC     #5, QUAL_FLAGS+T, 40$          ; 1489
                        50      1C   AA   D0 003E1         MOVL    DISPLAY_BLOCK, R0              ; 1491
                        51      1C   AA   D0 003E5         MOVL    DISPLAY_BLOCK, R1              ; 1490
                              0119   C1   95 003E9         TSTB    281(R1)                        :
                                     0E   12 003ED         BNEQ    38$                            :
                              014E   C0   DD 003EF         PUSHL   334(R0)                        ; 1491
                              081C   CA   DD 003F3         PUSHL   OWNER_WIDTH                    :
                             0000'   CF   9F 003F7         PUSHAB  P.ACM                          :
                                     0C   11 003FB         BRB     39$                            :
                              014E   C0   DD 003FD 38$:    PUSHL   334(R0)                        ; 1492
                              081C   CA   DD 00401         PUSHL   OWNER_WIDTH                    :
                             0000'   CF   9F 00405         PUSHAB  P.ACO                          :
                                     7E   D4 00409 39$:    CLRL    -(SP)                          :
                        6B           04   FB 0040B         CALLS   #4, DIR$APPEND                 :
                                01   AA   95 0040E 40$:    TSTB    QUAL_FLAGS+1                   ; 1494
                                     42   18 00411         BGEQ    43$                            :
                             0000'   CF   9F 00413         PUSHAB  P.ACQ                          ; 1497
                                     7E   D4 00417         CLRL    -(SP)                          :
                        6B           02   FB 00419         CALLS   #2, DIR$APPEND                 :
                                     52   D4 0041C         CLRL    J                              ; 1498
                        50      1C   AA   D0 0041E 41$:    MOVL    DISPLAY_BLOCK, R0              ; 1501
                        53    0152   C0   9E 00422         MOVAB   338(R0), R3                    :
         51             52           02   78 00427         ASHL    #2, J, R1                      :
 50      63             04           51   EF 0042B         EXTZV   R1, #4, (R3), R0               :
                           0000'CF40      DD 00430         PUSHL   PROT_TABLE[R0]                 :
                                     7E   D4 00435         CLRL    -(SP)                          :
                        6B           02   FB 00437         CALLS   #2, DIR$APPEND                 :
                        03           52   D1 0043A         CMPL    J, #3                          ; 1502
                                     09   18 0043D         BGEQ    42$                            :
                             0000'   CF   9F 0043F         PUSHAB  P.ACS                          :
                                     7E   D4 00443         CLRL    -(SP)                          :
                        6B           02   FB 00445         CALLS   #2, DIR$APPEND                 :
         D2             52           03   F3 00448 42$:    AOBLEQ  #3, J, 41$                     ; 1498
                             0000'   CF   9F 0044C         PUSHAB  P.ACU                          ; 1504
                                     7E   D4 00450         CLRL    -(SP)                          :
                        6B           02   FB 00452         CALLS   #2, DIR$APPEND                 :
                        1A           6A   E9 00455 43$:    BLBC    QUAL_FLAGS, 45$                ; 1507
                              082C   CA   D5 00458         TSTL    ACL_[ENGTH                     :
```

```
                              14 15 0045C       BLEQ    45$                                         ;
                         34   AA B5 0045E       TSTW    LINE_DESC                                   ; 1510
                              0A 13 00461       BEQL    44$                                         ;
                         34   AA 9F 00463       PUSHAB  LINE_DESC                                   ;
                              7E D4 00466       CLRL    -(SP)                                       ;
          0000G  CF           02 FB 00468       CALLS   #2, DIR$OUTPUT                              ;
          0000V  CF           00 FB 0046D 44$:  CALLS   #0, DIR$SHOW_ACL                            ; 1511
                         0C   AA D6 00472 45$:  INCL    COLUMN_INDEX                                ; 1514
                 50      34   AA 3C 00475       MOVZWL  LINE_DESC, R0                               ; 1515
50           10  AA           50 C3 00479       SUBL3   R0, COLUMN_WIDTH, R0                        ;
56               50           58 C1 0047E       ADDL3   COLUMN_BEGIN, R0, SPACE_COUNT               ;
                 01      08   AA D1 00482       CMPL    COLUMN_COUNT, #1                            ; 1516
                              12 15 00486       BLEQ    46$                                         ;
             08  AA      0C   AA D1 00488       CMPL    COLUMN_INDEX, COLUMN_COUNT                  ; 1517
                              0B 18 0048D       BGEQ    46$                                         ;
                              56 DD 0048F       PUSHL   SPACE_COUNT                                 ; 1518
                      0000'   CF 9F 00491       PUSHAB  P.ACW                                       ;
                              7E D4 00495       CLRL    -(SP)                                       ;
                 6B           03 FB 00497       CALLS   #3, DIR$APPEND                              ;
                 50           01 D0 0049A 46$:  MOVL    #1, R0                                      ; 1520
                                 04 0049D       RET                                                 ; 1522

; Routine Size:  1182 bytes,    Routine Base:  $CODE$ + 0746
```

```
1 ROUTINE DIR$SHOW_FULL =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !       Display all of the information
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$SHOW_FULL ()
1 !
1 ! INPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1
1 !
1 ! SIDE EFFECTS:
1 !       none
1 !
1 !--
1
2 BEGIN
2
2 OWN
2         JOURNAL_FLAG;                                   ! Disable journaling
2
2 LOCAL
2         HEADER_LEN,                                     ! Length of file prefix
2         FILENAME_LEN,                                   ! Length of the file name
2         NAME_LEN,                                       ! Filename length minus version
2         SPACE_COUNT,                                    ! Number of spaces to pad
2         LOCAL_DESC      : $BBLOCK [DSC$C_S_BLN],        ! Local text descriptor
2         MARK_POSITION;                                  ! Saved line position
2
2 EXTERNAL ROUTINE
2         DIR$OUTPUT;                                     ! General output routine
2
2 ! See if it is necessary and time to do the header & trailer information.
2
2 HEADER_LEN = .DISPLAY_BLOCK[DIR_B_NODE] +
2              .DISPLAY_BLOCK[DIR_B_DEV] +
2              .DISPLAY_BLOCK[DIR_B_DIR];
2 FILENAME_LEN = .DISPLAY_BLOCK[DIR_B_FNS] - .HEADER_LEN;
2 NAME_LEN = .DISPLAY_BLOCK[DIR_B_FNS] - .DISPLAY_BLOCK[DIR_B_VER];
2
2 IF CH$NEQ (.PREV_DIR_LEN, PREV_DIR, .HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME])
2 THEN
3     BEGIN
3     IF .LINE_DESC[DSC$W_LENGTH] GTR 0
```

```
  3          THEN
  4              BEGIN
  4              DIR$OUTPUT (0, LINE_DESC);
  4              COLUMN_INDEX = 0
  3              END;
  3          IF .PREV_DIR_LEN NEQ 0 THEN DIRSTOTAL ();
  3          PREV_DIR_LEN = .HEADER_LEN;
  3          CH$MOVE (.HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], PREV_DIR);
  3          IF .QUAL_FLAGS[DIR_V_QUAL_HEAD]
  3          AND NOT .QUAL_FLAGS[DIR_V_QUAL_GRAN]
  3          THEN
  4              BEGIN
  4              WRITE (0, '');
  4              WRITE (DIR$_NEWDIRECT, 0, .PREV_DIR_LEN, PREV_DIR);
  3              END;
  2          END;
  2
  2      ! Check for another version of the same file.
  2
  2      IF .VERSION_COUNT GTR 0
  2      THEN
  3          BEGIN
  3          IF CH$EQL (.PREV_FILE_LEN, PREV_FILE,
  3                  .NAME_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], 0)
  3          THEN VERSION_INDEX = .VERSION_INDEX + 1
  3          ELSE
  4              BEGIN
  4              PREV_FILE_LEN = .NAME_LEN;
  4              CH$MOVE (.NAME_LEN, DISPLAY_BLOCK[DIR_T_FILENAME], PREV_FILE);
  4              VERSION_INDEX = 0;
  3              END;
  3          IF .VERSION_INDEX GEQ .VERSION_COUNT THEN RETURN 1;
  2          END;
  2
  2      ! Update the running totals.
  2
  2      TOTAL_USED = .TOTAL_USED + .DISPLAY_BLOCK[DIR_L_EFBLK];
  2      TOTAL_ALLOC = .TOTAL_ALLOC + .DISPLAY_BLOCK[DIR_L_HIBLK];
  2      TOTAL_FILES = .TOTAL_FILES + 1;
  2
  2      IF .QUAL_FLAGS[DIR_V_QUAL_TOTL] OR .QUAL_FLAGS[DIR_V_QUAL_GRAN] THEN RETURN 1;
  2
  2      WRITE (0, '');
  2
  2      CH$FILL (0, DSC$C_S_BLN, LINE_DESC);
  2      LINE_DESC[DSC$W_LENGTH] = 0;
  2      LINE_DESC[DSC$A_POINTER] = LINE_BUFFER;
  2
  2      IF NOT .QUAL_FLAGS[DIR_V_QUAL_HEAD]
  2      THEN APPEND (0, '!AD', .HEADER_LEN, DISPLAY_BLOCK[DIR_T_FILENAME]);
P 2      APPEND (0, '!AD', .FILENAME_LEN, VECTOR [DISPLAY_BLOCK[DIR_T_FILENAME],
  2                                                  .HEADER_LEN; ,BYTE]);
  2      SPACE_COUNT = ((.LINE_DESC[DSC$W_LENGTH] / 20) + 1) * 20 - .LINE_DESC[DSC$W_LENGTH];
  2      IF .SPACE_COUNT EQL 0 THEN SPACE_COUNT = 20;
  2      APPEND (0, '!#* ', .SPACE_COUNT);
  2      MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
  2
```

```
; 1242          1637  2  ! Check to see if an error occurred opening the file.
; 1243          1638  2
; 1244          1639  2  IF NOT .DISPLAY_BLOCK[DIR_L_STATUS]
; 1245          1640  2  THEN
; 1246          1641  3      BEGIN
; 1247          1642  3      CH$FILL (0, DSC$C_S_BLN, LOCAL_DESC);
; 1248          1643  3      LOCAL_DESC[DSC$W_[ENGTH] = 1024 - .LINE_DESC[DSC$W_LENGTH];
; 1249          1644  3      LOCAL_DESC[DSC$A_POINTER] = LINE_BUFFER[.LINE_DESC[DSC$W_LENGTH]];
; 1250        P 1645  3      $GETMSG (MSGID = .DISPLAY_BLOCK[DIR_L_STATUS],
; 1251        P 1646  3               MSGLEN = LOCAL_DESC,
; 1252        P 1647  3               BUFADR = LOCAL_DESC,
; 1253          1648  3               FLAGS = 1);
; 1254          1649  3      LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] + .LOCAL_DESC[DSC$W_LENGTH];
; 1255          1650  3      IF .[INE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1256          1651  3      THEN
; 1257          1652  4          BEGIN
; 1258          1653  4          LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1259          1654  4          DIR$OUTPUT (0, [INE_DESC);
; 1260          1655  4          CH$FILL (' ', 20, LINE_BUFFER);
; 1261          1656  4          LOCAL_DESC[DSC$W_LENGTA] = 1024 - 20;
; 1262          1657  4          LOCAL_DESC[DSC$A_POINTER] = LINE_BUFFER[20];
; 1263        P 1658  4          $GETMSG (MSGID = .DISPLAY_BLOCK[DIR_L_STATUS],
; 1264        P 1659  4                   MSGLEN = LOCAL_DESC,
; 1265        P 1660  4                   BUFADR = LOCAL_DESC,
; 1266          1661  4                   FLAGS = 1);
; 1267          1662  4          LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] + 20;
; 1268          1663  3          END;
; 1269          1664  3      DIR$OUTPUT (0, LINE_DESC);
; 1270          1665  3      RETURN 1;
; 1271          1666  2      END;
; 1272          1667  2
; 1273          1668  2  IF .MARK_POSITION + 28 GTR .DISPLAY_WIDTH
; 1274          1669  2  THEN
; 1275          1670  3      BEGIN
; 1276          1671  3      LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] - .SPACE_COUNT;
; 1277          1672  3      DIR$OUTPUT (0, [INE_DESC);
; 1278          1673  2      END;
; 1279          1674  2  IF .LINE_DESC[DSC$W_LENGTH] LEQ 28
; 1280          1675  2  THEN SPACE_COUNT = 30 - .LINE_DESC[DSC$W_LENGTH]
; 1281          1676  2  ELSE SPACE_COUNT = 2;
; 1282          1677  2  IF .DISPLAY_BLOCK[DIR_W_FID_NUM] NEQ 0
; 1283          1678  2  OR .DISPLAY_BLOCK[DIR_W_FID_SEQ] NEQ 0
; 1284          1679  2  OR .DISPLAY_BLOCK[DIR_W_FID_RVN] NEQ 0
; 1285        P 1680  2  THEN APPEND (DIR$_FUL[FILEID, 0, .SPACE_COUNT,
; 1286        P 1681  2                                    .DISPLAY_BLOCK[DIR_W_FID_NUM],
; 1287        P 1682  2                                    .DISPLAY_BLOCK[DIR_W_FID_SEQ],
; 1288          1683  2                                    .DISPLAY_BLOCK[DIR_W_FID_RVN])
; 1289          1684  2  ELSE APPEND (DIR$_NOFUFILEID, 0, .SPACE_COUNT);
; 1290          1685  2  DIR$OUTPUT (0, LINE_DESC);
; 1291          1686  2
; 1292        P 1687  2  APPEND (DIR$_FULLSIZE, 0, .DISPLAY_BLOCK[DIR_L_EFBLK],
; 1293          1688  2                           .DISPLAY_BLOCK[DIR_L_HIBLK]);
; 1294          1689  2  MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1295          1690  2  IF .DISPLAY_BLOCK[DIR_B_NODE] EQ[ 0
; 1296          1691  2  THEN APPEND (DIR$_FUL[OWNERID, 0, .DISPLAY_BLOCK[DIR_L_FILEOWNER])
; 1297          1692  2  ELSE APPEND (DIR$_FULLOWNERUIC, 0, .DISPLAY_BLOCK[DIR_[_FILEOWNER]);
; 1298          1693  2  IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1299          1694  2 THEN
; 1300          1695  3     BEGIN
; 1301          1696  3     LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1302          1697  3     DIR$OUTPUT (0, LINE_DESC);
; 1303          1698  3     IF .DISPLAY_BLOCK[DIR_B_NODE] EQL 0
; 1304          1699  3     THEN APPEND (DIR$_FULLOWNERID, 0, .DISPLAY_BLOCK[DIR_L_FILEOWNER])
; 1305          1700  3     ELSE APPEND (DIR$_FULLOWNERUIC, 0, .DISPLAY_BLOCK[DIR_L_FILEOWNER]);
; 1306          1701  2     END;
; 1307          1702  2 DIR$OUTPUT (0, LINE_DESC);
; 1308          1703  2 IF .DISPLAY_BLOCK[DIR_L_CDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_CDT4] EQL 0
; 1309          1704  2 THEN APPEND (DIR$_NOFOCREDAT)
; 1310          1705  2 ELSE APPEND (DIR$_FULLCREDAT, 0, DISPLAY_BLOCK[DIR_L_CDT0]);
; 1311          1706  2 IF .DISPLAY_BLOCK[DIR_L_RDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_RDT4] EQL 0
; 1312          1707  2 THEN APPEND (DIR$_NOFOREVDAT)
; 1313        P 1708  2 ELSE APPEND (DIR$_FULLREVDAT, 0, DISPLAY_BLOCK[DIR_L_RDT0],
; 1314          1709  2                                   .DISPLAY_BLOCK[DIR_W_REVISION]);
; 1315          1710  2 DIR$OUTPUT (0, LINE_DESC);
; 1316          1711  2
; 1317          1712  2 IF .DISPLAY_BLOCK[DIR_L_EDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_EDT4] EQL 0
; 1318          1713  2 THEN APPEND (DIR$_NOFOEXPDAT)
; 1319          1714  2 ELSE APPEND (DIR$_FULLEXPDAT, 0, DISPLAY_BLOCK[DIR_L_EDT0]);
; 1320          1715  2 IF .DISPLAY_BLOCK[DIR_L_BDT0] EQL 0 AND .DISPLAY_BLOCK[DIR_L_BDT4] EQL 0
; 1321          1716  2 THEN APPEND (DIR$_NOFOBAKDAT)
; 1322          1717  2 ELSE APPEND (DIR$_FULLBAKDAT, 0, DISPLAY_BLOCK[DIR_L_BDT0]);
; 1323          1718  2 DIR$OUTPUT (0, LINE_DESC);
; 1324          1719  2
; 1325          1720  2 APPEND (DIR$_FILEORG);
; 1326          1721  2 SELECTONEU .DISPLAY_BLOCK[DIR_V_FILEORG] OF
; 1327          1722  2 SET
; 1328          1723  2     [DIR_C_SEQUENTIAL]: APPEND (DIR$_FILORGSEQ);
; 1329          1724  2     [DIR_C_RELATIVE]:   APPEND (DIR$_FILORGREL, 0, .DISPLAY_BLOCK[DIR_L_MRN]);
; 1330          1725  3     [DIR_C_INDEXED]:    BEGIN
; 1331          1726  3                         APPEND (DIR$_FILORGIDX);
; 1332          1727  3                         IF .DISPLAY_BLOCK[DIR_B_NOKEYS] NEQ 0
; 1333          1728  3                         THEN
; 1334          1729  4                             BEGIN
; 1335        P 1730  4                             APPEND (DIR$_IDXPROLOG, 0, .DISPLAY_BLOCK[DIR_W_PVN],
; 1336          1731  4                                                        .DISPLAY_BLOCK[DIR_B_NOKEYS]);
; 1337          1732  4                             IF .DISPLAY_BLOCK[DIR_B_NOAREAS] GTRU 1
; 1338          1733  4                             THEN
; 1339          1734  5                                 BEGIN
; 1340          1735  5                                 DIR$OUTPUT (0, LINE_DESC);
; 1341          1736  5                                 APPEND (DIR$_IDXAREA, 0, .DISPLAY_BLOCK[DIR_B_NOAREAS]);
; 1342          1737  4                                 END;
; 1343          1738  3                             END;
; 1344          1739  2                         END;
; 1345          1740  2     [OTHERWISE]:        APPEND (DIR$_FILORGUNK, 0, .DISPLAY_BLOCK[DIR_V_FILEORG]);
; 1346          1741  2     TES;
; 1347          1742  2 DIR$OUTPUT (0, LINE_DESC);
; 1348          1743  2
; 1349          1744  2 APPEND (DIR$_FILEATTR, 0, .DISPLAY_BLOCK[DIR_L_HIBLK], .DISPLAY_BLOCK[DIR_W_DEFEXT]);
; 1350          1745  2 MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1351          1746  2 IF .DISPLAY_BLOCK[DIR_B_BKTSIZE] NEQ 0
; 1352          1747  2 THEN
; 1353          1748  3     BEGIN
; 1354          1749  3     INCR J FROM 1 TO 2
; 1355          1750  3     DO
; 1356          1751  4                BEGIN
; 1357          1752  4                IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1358          1753  4                IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1359          1754  4                IF .DISPLAY_BLOCK[DIR_V_FILEORG] EQL DIR_C_INDEXED
; 1360          1755  4                THEN APPEND (DIR$_MAXBKTSIZ, 0, .DISPLAY_BLOCK[DIR_B_BKTSIZE])
; 1361          1756  4                ELSE APPEND (DIR$_BUCKETSIZ, 0, .DISPLAY_BLOCK[DIR_B_BKTSIZE]);
; 1362          1757  4                IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1363          1758  4                THEN
; 1364          1759  5                    BEGIN
; 1365          1760  5                    LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1366          1761  5                    DIR$OUTPUT (0, LINE_DESC);
; 1367          1762  5                    END
; 1368          1763  4                ELSE EXITLOOP;
; 1369          1764  3                END;
; 1370          1765  2            END;
; 1371          1766  2        MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1372          1767  2        INCR J FROM 1 TO 2
; 1373          1768  2        DO
; 1374          1769  3            BEGIN
; 1375          1770  3            IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1376          1771  3            IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1377          1772  3            APPEND (DIR$_GBLBUFCNT, 0, .DISPLAY_BLOCK[DIR_W_GBC]);
; 1378          1773  3            IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1379          1774  3            THEN
; 1380          1775  4                BEGIN
; 1381          1776  4                LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1382          1777  4                DIR$OUTPUT (0, LINE_DESC);
; 1383          1778  4                END
; 1384          1779  3            ELSE EXITLOOP;
; 1385          1780  2            END;
; 1386          1781  2        MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1387          1782  2        INCR J FROM 1 TO 2
; 1388          1783  2        DO
; 1389          1784  3            BEGIN
; 1390          1785  3            IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1391          1786  3            IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1392          1787  3            IF .DISPLAY_BLOCK[DIR_W_VERLIMIT] EQL %X'7FFF'
; 1393          1788  3            THEN APPEND (DIR$_NOVERLIMIT)
; 1394          1789  3            ELSE APPEND (DIR$_VERLIMIT, 0, .DISPLAY_BLOCK[DIR_W_VERLIMIT]);
; 1395          1790  3            IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1396          1791  3            THEN
; 1397          1792  4                BEGIN
; 1398          1793  4                LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1399          1794  4                DIR$OUTPUT (0, LINE_DESC);
; 1400          1795  4                END
; 1401          1796  3            ELSE EXITLOOP;
; 1402          1797  2            END;
; 1403          1798  2        MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1404          1799  2        IF .DISPLAY_BLOCK[DIR_V_CONTIG]
; 1405          1800  2        THEN
; 1406          1801  3            BEGIN
; 1407          1802  3            INCR J FROM 1 TO 2
; 1408          1803  3            DO
; 1409          1804  4                BEGIN
; 1410          1805  4                IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1411          1806  4                IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1412          1807  4                APPEND (DIR$_FILATRCTG);
```

```
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2   MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2   IF .DISPLAY_BLOCK[DIR_V_CONTIGB]
2   THEN
3       BEGIN
3       INCR J FROM 1 TO 2
3       DO
4           BEGIN
4           IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4           IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4           APPEND (DIR$_FILATRCTB);
4           IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4           THEN
5               BEGIN
5               LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5               DIR$OUTPUT (0, LINE_DESC);
5               END
4           ELSE EXITLOOP;
3           END;
2       END;
2   MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2   IF .DISPLAY_BLOCK[DIR_V_LOCKED]
2   THEN
3       BEGIN
3       INCR J FROM 1 TO 2
3       DO
4           BEGIN
4           IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4           IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4           APPEND (DIR$_FILATRCK);
4           IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4           THEN
5               BEGIN
5               LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5               DIR$OUTPUT (0, LINE_DESC);
5               END
4           ELSE EXITLOOP;
3           END;
2       END;
2   MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2   IF .DISPLAY_BLOCK[DIR_V_NOBACKUP]
2   THEN
3       BEGIN
3       INCR J FROM 1 TO 2
3       DO
4           BEGIN
4           IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4           IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4           APPEND (DIR$_FILATRNOBAK);
```

```
; 1470          1865  4              IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1471          1866  4              THEN
; 1472          1867  5                  BEGIN
; 1473          1868  5                  LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1474          1869  5                  DIR$OUTPUT (0, LINE_DESC);
; 1475          1870  5                  END
; 1476          1871  4              ELSE EXITLOOP;
; 1477          1872  3              END;
; 1478          1873  2          END;
; 1479          1874  2      MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1480          1875  2      IF .DISPLAY_BLOCK[DIR_V_WRITEBACK]
; 1481          1876  2      THEN
; 1482          1877  3          BEGIN
; 1483          1878  3          INCR J FROM 1 TO 2
; 1484          1879  3          DO
; 1485          1880  4              BEGIN
; 1486          1881  4              IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1487          1882  4              IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1488          1883  4              APPEND (DIR$_FILATRWRBAK);
; 1489          1884  4              IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1490          1885  4              THEN
; 1491          1886  5                  BEGIN
; 1492          1887  5                  LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1493          1888  5                  DIR$OUTPUT (0, LINE_DESC);
; 1494          1889  5                  END
; 1495          1890  4              ELSE EXITLOOP;
; 1496          1891  3              END;
; 1497          1892  2          END;
; 1498          1893  2      MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1499          1894  2      IF .DISPLAY_BLOCK[DIR_V_READCHECK]
; 1500          1895  2      THEN
; 1501          1896  3          BEGIN
; 1502          1897  3          INCR J FROM 1 TO 2
; 1503          1898  3          DO
; 1504          1899  4              BEGIN
; 1505          1900  4              IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1506          1901  4              IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1507          1902  4              APPEND (DIR$_FILATRRDCHK);
; 1508          1903  4              IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
; 1509          1904  4              THEN
; 1510          1905  5                  BEGIN
; 1511          1906  5                  LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
; 1512          1907  5                  DIR$OUTPUT (0, LINE_DESC);
; 1513          1908  5                  END
; 1514          1909  4              ELSE EXITLOOP;
; 1515          1910  3              END;
; 1516          1911  2          END;
; 1517          1912  2      MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1518          1913  2      IF .DISPLAY_BLOCK[DIR_V_WRITCHECK]
; 1519          1914  2      THEN
; 1520          1915  3          BEGIN
; 1521          1916  3          INCR J FROM 1 TO 2
; 1522          1917  3          DO
; 1523          1918  4              BEGIN
; 1524          1919  4              IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
; 1525          1920  4              IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
; 1526          1921  4              APPEND (DIR$_FILATRWRCHK);
```

```
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2       IF .DISPLAY_BLOCK[DIR_V_BADACL]
2       THEN
3           BEGIN
3           INCR J FROM 1 TO 2
3           DO
4               BEGIN
4               IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4               IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4               APPEND (DIR$_FILATRBADACL);
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2       IF .DISPLAY_BLOCK[DIR_V_DIRECTORY]
2       THEN
3           BEGIN
3           INCR J FROM 1 TO 2
3           DO
4               BEGIN
4               IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4               IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4               APPEND (DIR$_FILATRDIR);
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2       IF .DISPLAY_BLOCK[DIR_V_BADBLOCK]
2       THEN
3           BEGIN
3           INCR J FROM 1 TO 2
3           DO
4               BEGIN
4               IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4               IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4               APPEND (DIR$_FILATRBADBLK);
```

```
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2       IF .DISPLAY_BLOCK[DIR_V_NOCHARGE]
2       THEN
3           BEGIN
3           INCR J FROM 1 TO 2
3           DO
4               BEGIN
4               IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4               IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4               APPEND (DIR$_FILATRNOCHRG);
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
2       IF .DISPLAY_BLOCK[DIR_V_ERASE]
2       THEN
3           BEGIN
3           INCR J FROM 1 TO 2
3           DO
4               BEGIN
4               IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN APPEND (0, ', ');
4               IF .LINE_DESC[DSC$W_LENGTH] EQL 0 THEN APPEND (0, '!20* ');
4               APPEND (DIR$_FILATRERASE);
4               IF .LINE_DESC[DSC$W_LENGTH] GTR .DISPLAY_WIDTH
4               THEN
5                   BEGIN
5                   LINE_DESC[DSC$W_LENGTH] = .MARK_POSITION;
5                   DIR$OUTPUT (0, LINE_DESC);
5                   END
4               ELSE EXITLOOP;
3               END;
2           END;
2       IF .LINE_DESC[DSC$W_LENGTH] GTR 0 THEN DIR$OUTPUT (0, LINE_DESC);
2
2       APPEND (DIR$_RECFORMAT);
2       SELECTONEU .DISPLAY_BLOCK[DIR_V_RTYPE] OF SET
2           [DIR_C_FIXED]:      APPEND (DIR$_RECFMTFIX, 0, .DISPLAY_BLOCK[DIR_W_RSIZE]);
2           [DIR_C_VARIABLE]:   APPEND (DIR$_RECFMTVAR);
2           [DIR_C_VFC]:        APPEND (DIR$_RECFMTVFC, 0, .DISPLAY_BLOCK[DIR_B_VFCSIZE]);
2           [DIR_C_UNDEFINED]:  APPEND (DIR$_RECFMTUDF);
2           [DIR_C_STREAM]:     APPEND (DIR$_RECFMTSTM);
2           [DIR_C_STREAMLF]:   APPEND (DIR$_RECFMTSTMLF);
```

```
; 1641       2036  2       [DIR_C_STREAMCR]:    APPEND (DIR$_RECFMTSTMCR);
; 1642       2037  2       [OTHERWISE]:         APPEND (DIR$_RECFMTUNK, 0, .DISPLAY_BLOCK[DIR_V_RTYPE]);
; 1643       2038  2       TES;
; 1644       2039  2   IF .DISPLAY_BLOCK[DIR_V_RTYPE] NEQ DIR_C_FIXED
; 1645       2040  2   AND .DISPLAY_BLOCK[DIR_W_RSIZE] NEQ 0
; 1646       2041  2   THEN APPEND (DIR$_MAXRECSIZ, 0, .DISPLAY_BLOCK[DIR_W_RSIZE]);
; 1647       2042  2   DIR$OUTPUT (0, LINE_DESC);
; 1648       2043  2
; 1649       2044  2   APPEND (DIR$_RECATTR);
; 1650       2045  2   IF .DISPLAY_BLOCK[DIR_B_RATTRIB] EQL 0
; 1651       2046  2   THEN APPEND (DIR$_NORECATTR)
; 1652       2047  2   ELSE
; 1653       2048  3       BEGIN
; 1654       2049  3       MARK_POSITION = .LINE_DESC[DSC$W_LENGTH];
; 1655       2050  3       IF .DISPLAY_BLOCK[DIR_V_IMPLIEDCC] NEQ 0
; 1656       2051  3       THEN APPEND (DIR$_CRCARCTL)
; 1657       2052  3       ELSE IF .DISPLAY_BLOCK[DIR_V_FORTRANCC] NEQ 0
; 1658       2053  3       THEN APPEND (DIR$_FTNCARCTL)
; 1659       2054  3       ELSE IF .DISPLAY_BLOCK[DIR_V_PRINTCC] NEQ 0
; 1660       2055  3       THEN APPEND (DIR$_PRICARCTL)
; 1661       2056  3       ELSE APPEND (DIR$_NOCARCTL);
; 1662       2057  3       IF .DISPLAY_BLOCK[DIR_V_NOSPAN] NEQ 0
; 1663       2058  3       THEN
; 1664       2059  4           BEGIN
; 1665       2060  4           IF .MARK_POSITION NEQ .LINE_DESC[DSC$W_LENGTH] THEN APPEND (0, ', ');
; 1666       2061  4           APPEND (DIR$_NOSPAN);
; 1667       2062  3           END;
; 1668       2063  2       END;
; 1669       2064  2   DIR$OUTPUT (0, LINE_DESC);
; 1670       2065  2
; 1671       2066  2   IF .JOURNAL_FLAG
; 1672       2067  2   THEN
; 1673       2068  3       BEGIN
; 1674       2069  3       APPEND (DIR$_JNLENABLED);
; 1675       2070  3       IF .DISPLAY_BLOCK[DIR_W_JOURNAL] EQL 0
; 1676       2071  3       THEN APPEND (DIR$_NOJNLENB)
; 1677       2072  3       ELSE
; 1678       2073  4           BEGIN
; 1679       2074  4           IF .DISPLAY_BLOCK[DIR_V_AIJNL] THEN APPEND (0, 'AI,');
; 1680       2075  4           IF .DISPLAY_BLOCK[DIR_V_BIJNL] THEN APPEND (0, 'BI,');
; 1681       2076  4           IF .DISPLAY_BLOCK[DIR_V_ATJNL] THEN APPEND (0, 'AT,');
; 1682       2077  4           IF .DISPLAY_BLOCK[DIR_V_RUJNL] THEN APPEND (0, 'RU,');
; 1683       2078  4           IF .DISPLAY_BLOCK[DIR_V_ONLY_RU] THEN APPEND (0, 'ONLY_RU,');
; 1684       2079  4           IF .DISPLAY_BLOCK[DIR_V_NEVER_RU] THEN APPEND (0, 'NEVER_RU,');
; 1685       2080  4           LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] - 1;
; 1686       2081  3           END;
; 1687       2082  3       DIR$OUTPUT (0, LINE_DESC);
; 1688       2083  3       IF .DISPLAY_BLOCK[DIR_B_BI_SIZE] NEQ 0
; 1689       2084  3       THEN WRITE (DIR$_BIJNLNAME, 0, DISPLAY_BLOCK[DIR_T_BI_JNLNAME])
; 1690       2085  3       ELSE IF .DISPLAY_BLOCK[DIR_V_BIJNL]
; 1691       2086  3           THEN WRITE (DIR$_NOBIJNL);
; 1692       2087  3       IF .DISPLAY_BLOCK[DIR_B_AI_SIZE] NEQ 0
; 1693       2088  3       THEN WRITE (DIR$_AIJNLNAME, 0, DISPLAY_BLOCK[DIR_T_AI_JNLNAME])
; 1694       2089  3       ELSE IF .DISPLAY_BLOCK[DIR_V_AIJNL]
; 1695       2090  3           THEN WRITE (DIR$_NOAIJNL);
; 1696       2091  3       IF .DISPLAY_BLOCK[DIR_B_AT_SIZE] NEQ 0
; 1697       2092  3       THEN WRITE (DIR$_ATJNLNAME, 0, DISPLAY_BLOCK[DIR_T_AT_JNLNAME])
; 1698        2093 3           ELSE IF .DISPLAY_BLOCK[DIR_V_ATJNL]
; 1699        2094 3               THEN WRITE (DIR$_NOATJNL);
; 1700        2095 2           END;
; 1701        2096 2
; 1702        2097 2   APPEND (DIR$_FILEPROT);
; 1703        2098 2   INCR J FROM 0 TO 3
; 1704        2099 2   DO
; 1705        2100 3       BEGIN
; 1706        2101 3       SELECTONE .J OF
; 1707        2102 3       SET
; 1708        2103 3           [0]:    APPEND (DIR$_SYSPROT);
; 1709        2104 3           [1]:    APPEND (DIR$_OWNPROT);
; 1710        2105 3           [2]:    APPEND (DIR$_GRPPROT);
; 1711        2106 3           [3]:    APPEND (DIR$_WORPROT);
; 1712        2107 3       TES;
; 1713        2108 3       DIR$APPEND (0, .PROT_TABLE[.(DISPLAY_BLOCK[DIR_W_FILEPROT])<.J*4,4>]);
; 1714        2109 2       END;
; 1715        2110 2   DIR$OUTPUT (0, LINE_DESC);
; 1716        2111 2
; 1717        2112 2   IF .ACL_LENGTH GTR 0
; 1718        2113 2   THEN DIR$SHOW_ACL ()
; 1719        2114 2   ELSE WRITE (DIR$_NOFILEACL);
; 1720        2115 2
; 1721        2116 2   RETURN 1;
; 1722        2117 2
; 1723        2118 1   END;                                                ! End of routine DIR$SHOW_FULL


                                                                  .PSECT  $PLIT$,NOWRT,NOEXE,2

                                      001FC P.ACZ:    .BLKB    0
                            00000000  001FC P.ACY:    .LONG    0
                            00000000' 00200           .ADDRESS P.ACZ
                                  00  00204 P.ADB:    .BYTE    0
                                      00205           .BLKB    3
                            00000001  00208 P.ADA:    .LONG    1
                            00000000' 0020C           .ADDRESS P.ADB
                                      00210 P.ADD:    .BLKB    0
                            00000000  00210 P.ADC:    .LONG    0
                            00000000' 00214           .ADDRESS P.ADD
                         44  41  21   00218 P.ADF:    .ASCII   \!AD\
                                      0021B           .BLKB    1
                            00000003  0021C P.ADE:    .LONG    3
                            00000000' 00220           .ADDRESS P.ADF
                         44  41  21   00224 P.ADH:    .ASCII   \!AD\
                                      00227           .BLKB    1
                            00000003  00228 P.ADG:    .LONG    3
                            00000000' 0022C           .ADDRESS P.ADH
                     20  2A  23  21   00230 P.ADJ:    .ASCII   \!#* \
                            00000004  00234 P.ADI:    .LONG    4
                            00000000' 00238           .ADDRESS P.ADJ
                                  00  0023C P.ADL:    .BYTE    0
                                      0023D           .BLKB    3
                            00000001  00240 P.ADK:    .LONG    1
                            00000000' 00244           .ADDRESS P.ADL
                                  00  00248 P.ADN:    .BYTE    0
```

```
                 00249            .BLKB    3
       00000001  0024C P.ADM:     .LONG    1                                                    ;
       00000000' 00250            .ADDRESS P.ADN                                                ;
             00  00254 P.ADP:     .BYTE    0                                                    ;
                 00255            .BLKB    3
       00000001  00258 P.ADO:     .LONG    1                                                    ;
       00000000' 0025C            .ADDRESS P.ADP                                                ;
             00  00260 P.ADR:     .BYTE    0                                                    ;
                 00261            .BLKB    3
       00000001  00264 P.ADQ:     .LONG    1                                                    ;
       00000000' 00268            .ADDRESS P.ADR                                                ;
             00  0026C P.ADT:     .BYTE    0                                                    ;
                 0026D            .BLKB    3
       00000001  00270 P.ADS:     .LONG    1                                                    ;
       00000000' 00274            .ADDRESS P.ADT                                                ;
             00  00278 P.ADV:     .BYTE    0                                                    ;
                 00279            .BLKB    3
       00000001  0027C P.ADU:     .LONG    1                                                    ;
       00000000' 00280            .ADDRESS P.ADV                                                ;
             00  00284 P.ADX:     .BYTE    0                                                    ;
                 00285            .BLKB    3
       00000001  00288 P.ADW:     .LONG    1                                                    ;
       00000000' 0028C            .ADDRESS P.ADX                                                ;
             00  00290 P.ADZ:     .BYTE    0                                                    ;
                 00291            .BLKB    3
       00000001  00294 P.ADY:     .LONG    1                                                    ;
       00000000' 00298            .ADDRESS P.ADZ                                                ;
             00  0029C P.AEB:     .BYTE    0                                                    ;
                 0029D            .BLKB    3
       00000001  002A0 P.AEA:     .LONG    1                                                    ;
       00000000' 002A4            .ADDRESS P.AEB                                                ;
             00  002A8 P.AED:     .BYTE    0                                                    ;
                 002A9            .BLKB    3
       00000001  002AC P.AEC:     .LONG    1                                                    ;
       00000000' 002B0            .ADDRESS P.AED                                                ;
             00  002B4 P.AEF:     .BYTE    0                                                    ;
                 002B5            .BLKB    3
       00000001  002B8 P.AEE:     .LONG    1                                                    ;
       00000000' 002BC            .ADDRESS P.AEF                                                ;
             00  002C0 P.AEH:     .BYTE    0                                                    ;
                 002C1            .BLKB    3
       00000001  002C4 P.AEG:     .LONG    1                                                    ;
       00000000' 002C8            .ADDRESS P.AEH                                                ;
             00  002CC P.AEJ:     .BYTE    0                                                    ;
                 002CD            .BLKB    3
       00000001  002D0 P.AEI:     .LONG    1                                                    ;
       00000000' 002D4            .ADDRESS P.AEJ                                                ;
             00  002D8 P.AEL:     .BYTE    0                                                    ;
                 002D9            .BLKB    3
       00000001  002DC P.AEK:     .LONG    1                                                    ;
       00000000' 002E0            .ADDRESS P.AEL                                                ;
             00  002E4 P.AEN:     .BYTE    0                                                    ;
                 002E5            .BLKB    3
       00000001  002E8 P.AEM:     .LONG    1                                                    ;
       00000000' 002EC            .ADDRESS P.AEN                                                ;
             00  002F0 P.AEP:     .BYTE    0                                                    ;
                 002F1            .BLKB    3
```

```
               00000001  002F4 P.AEO:   .LONG    1                              ;
               00000000' 002F8          .ADDRESS P.AEP                          ;
                  20 2C  002FC P.AER:   .ASCII   \, \                           ;
                         002FE          .BLKB    2
               00000002  00300 P.AEQ:   .LONG    2                              ;
               00000000' 00304          .ADDRESS P.AER                          ;
      20 2A  30  32  21  00308 P.AET:   .ASCII   \!20* \                        ;
                         0030D          .BLKB    3
               00000005  00310 P.AES:   .LONG    5                              ;
               00000000' 00314          .ADDRESS P.AET                          ;
                     00  00318 P.AEV:   .BYTE    0                              ;
                         00319          .BLKB    3
               00000001  0031C P.AEU:   .LONG    1                              ;
               00000000' 00320          .ADDRESS P.AEV                          ;
                     00  00324 P.AEX:   .BYTE    0                              ;
                         00325          .BLKB    3
               00000001  00328 P.AEW:   .LONG    1                              ;
               00000000' 0032C          .ADDRESS P.AEX                          ;
                  20 2C  00330 P.AEZ:   .ASCII   \, \                           ;
                         00332          .BLKB    2
               00000002  00334 P.AEY:   .LONG    2                              ;
               00000000' 00338          .ADDRESS P.AEZ                          ;
      20 2A  30  32  21  0033C P.AFB:   .ASCII   \!20* \                        ;
                         00341          .BLKB    3
               00000005  00344 P.AFA:   .LONG    5                              ;
               00000000' 00348          .ADDRESS P.AFB                          ;
                     00  0034C P.AFD:   .BYTE    0                              ;
                         0034D          .BLKB    3
               00000001  00350 P.AFC:   .LONG    1                              ;
               00000000' 00354          .ADDRESS P.AFD                          ;
                  20 2C  00358 P.AFF:   .ASCII   \, \                           ;
                         0035A          .BLKB    2
               00000002  0035C P.AFE:   .LONG    2                              ;
               00000000' 00360          .ADDRESS P.AFF                          ;
      20 2A  30  32  21  00364 P.AFH:   .ASCII   \!20* \                        ;
                         00369          .BLKB    3
               00000005  0036C P.AFG:   .LONG    5                              ;
               00000000' 00370          .ADDRESS P.AFH                          ;
                     00  00374 P.AFJ:   .BYTE    0                              ;
                         00375          .BLKB    3
               00000001  00378 P.AFI:   .LONG    1                              ;
               00000000' 0037C          .ADDRESS P.AFJ                          ;
                  20 2C  00380 P.AFL:   .ASCII   \, \                           ;
                         00382          .BLKB    2
               00000002  00384 P.AFK:   .LONG    2                              ;
               00000000' 00388          .ADDRESS P.AFL                          ;
      20 2A  30  32  21  0038C P.AFN:   .ASCII   \!20* \                        ;
                         00391          .BLKB    3
               00000005  00394 P.AFM:   .LONG    5                              ;
               00000000' 00398          .ADDRESS P.AFN                          ;
                  20 2C  0039C P.AFP:   .ASCII   \, \                           ;
                         0039E          .BLKB    2
               00000002  003A0 P.AFO:   .LONG    2                              ;
               00000000' 003A4          .ADDRESS P.AFP                          ;
      20 2A  30  32  21  003A8 P.AFR:   .ASCII   \!20* \                        ;
                         003AD          .BLKB    3
               00000005  003B0 P.AFQ:   .LONG    5                              ;
```

```
                   00000000' 003B4           .ADDRESS P.AFR                        ;
                      20  2C 003B8 P.AFT:    .ASCII  \, \                          ;
                             003BA           .BLKB   2
                   00000002  003BC P.AFS:    .LONG   2                             ;
                   00000000' 003C0           .ADDRESS P.AFT                        ;
     20  2A  30  32  21      003C4 P.AFV:    .ASCII  \!20* \                       ;
                             003C9           .BLKB   3
                   00000005  003CC P.AFU:    .LONG   5                             ;
                   00000000' 003D0           .ADDRESS P.AFV                        ;
                      20  2C 003D4 P.AFX:    .ASCII  \, \                          ;
                             003D6           .BLKB   2
                   00000002  003D8 P.AFW:    .LONG   2                             ;
                   00000000' 003DC           .ADDRESS P.AFX                        ;
     20  2A  30  32  21      003E0 P.AFZ:    .ASCII  \!20* \                       ;
                             003E5           .BLKB   3
                   00000005  003E8 P.AFY:    .LONG   5                             ;
                   00000000' 003EC           .ADDRESS P.AFZ                        ;
                      20  2C 003F0 P.AGB:    .ASCII  \, \                          ;
                             003F2           .BLKB   2
                   00000002  003F4 P.AGA:    .LONG   2                             ;
                   00000000' 003F8           .ADDRESS P.AGB                        ;
     20  2A  30  32  21      003FC P.AGD:    .ASCII  \!20* \                       ;
                             00401           .BLKB   3
                   00000005  00404 P.AGC:    .LONG   5                             ;
                   00000000' 00408           .ADDRESS P.AGD                        ;
                      20  2C 0040C P.AGF:    .ASCII  \, \                          ;
                             0040E           .BLKB   2
                   00000002  00410 P.AGE:    .LONG   2                             ;
                   00000000' 00414           .ADDRESS P.AGF                        ;
     20  2A  30  32  21      00418 P.AGH:    .ASCII  \!20* \                       ;
                             0041D           .BLKB   3
                   00000005  00420 P.AGG:    .LONG   5                             ;
                   00000000' 00424           .ADDRESS P.AGH                        ;
                      20  2C 00428 P.AGJ:    .ASCII  \, \                          ;
                             0042A           .BLKB   2
                   00000002  0042C P.AGI:    .LONG   2                             ;
                   00000000' 00430           .ADDRESS P.AGJ                        ;
     20  2A  30  32  21      00434 P.AGL:    .ASCII  \!20* \                       ;
                             00439           .BLKB   3
                   00000005  0043C P.AGK:    .LONG   5                             ;
                   00000000' 00440           .ADDRESS P.AGL                        ;
                      20  2C 00444 P.AGN:    .ASCII  \, \                          ;
                             00446           .BLKB   2
                   00000002  00448 P.AGM:    .LONG   2                             ;
                   00000000' 0044C           .ADDRESS P.AGN                        ;
     20  2A  30  32  21      00450 P.AGP:    .ASCII  \!20* \                       ;
                             00455           .BLKB   3
                   00000005  00458 P.AGO:    .LONG   5                             ;
                   00000000' 0045C           .ADDRESS P.AGP                        ;
                      20  2C 00460 P.AGR:    .ASCII  \, \                          ;
                             00462           .BLKB   2
                   00000002  00464 P.AGQ:    .LONG   2                             ;
                   00000000' 00468           .ADDRESS P.AGR                        ;
     20  2A  30  32  21      0046C P.AGT:    .ASCII  \!20* \                       ;
                             00471           .BLKB   3
                   00000005  00474 P.AGS:    .LONG   5                             ;
                   00000000' 00478           .ADDRESS P.AGT                        ;
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                    20  2C  0047C P.AGV:   .ASCII  \, \                                                 ;
                            0047E          .BLKB   2                                                    ;
              00000002      00480 P.AGU:   .LONG   2                                                    ;
              00000000'     00484          .ADDRESS P.AGV                                               ;
    20  2A  30  32  21      00488 P.AGX:   .ASCII  \!20* \                                              ;
                            0048D          .BLKB   3                                                    ;
              00000005      00490 P.AGW:   .LONG   5                                                    ;
              00000000'     00494          .ADDRESS P.AGX                                               ;
                    20  2C  00498 P.AGZ:   .ASCII  \, \                                                 ;
                            0049A          .BLKB   2                                                    ;
              00000002      0049C P.AGY:   .LONG   2                                                    ;
              00000000'     004A0          .ADDRESS P.AGZ                                               ;
    20  2A  30  32  21      004A4 P.AHB:   .ASCII  \!20* \                                              ;
                            004A9          .BLKB   3                                                    ;
              00000005      004AC P.AHA:   .LONG   5                                                    ;
              00000000'     004B0          .ADDRESS P.AHB                                               ;
                    20  2C  004B4 P.AHD:   .ASCII  \, \                                                 ;
                            004B6          .BLKB   2                                                    ;
              00000002      004B8 P.AHC:   .LONG   2                                                    ;
              00000000'     004BC          .ADDRESS P.AHD                                               ;
    20  2A  30  32  21      004C0 P.AHF:   .ASCII  \!20* \                                              ;
                            004C5          .BLKB   3                                                    ;
              00000005      004C8 P.AHE:   .LONG   5                                                    ;
              00000000'     004CC          .ADDRESS P.AHF                                               ;
                        00  004D0 P.AHH:   .BYTE   0                                                    ;
                            004D1          .BLKB   3                                                    ;
              00000001      004D4 P.AHG:   .LONG   1                                                    ;
              00000000'     004D8          .ADDRESS P.AHH                                               ;
                        00  004DC P.AHJ:   .BYTE   0                                                    ;
                            004DD          .BLKB   3                                                    ;
              00000001      004E0 P.AHI:   .LONG   1                                                    ;
              00000000'     004E4          .ADDRESS P.AHJ                                               ;
                        00  004E8 P.AHL:   .BYTE   0                                                    ;
                            004E9          .BLKB   3                                                    ;
              00000001      004EC P.AHK:   .LONG   1                                                    ;
              00000000'     004F0          .ADDRESS P.AHL                                               ;
                        00  004F4 P.AHN:   .BYTE   0                                                    ;
                            004F5          .BLKB   3                                                    ;
              00000001      004F8 P.AHM:   .LONG   1                                                    ;
              00000000'     004FC          .ADDRESS P.AHN                                               ;
                    20  2C  00500 P.AHP:   .ASCII  \, \                                                 ;
                            00502          .BLKB   2                                                    ;
              00000002      00504 P.AHO:   .LONG   2                                                    ;
              00000000'     00508          .ADDRESS P.AHP                                               ;
                2C  49  41  0050C P.AHR:   .ASCII  \AI,\                                                ;
                            0050F          .BLKB   1                                                    ;
              00000003      00510 P.AHQ:   .LONG   3                                                    ;
              00000000'     00514          .ADDRESS P.AHR                                               ;
                2C  49  42  00518 P.AHT:   .ASCII  \BI,\                                                ;
                            0051B          .BLKB   1                                                    ;
              00000003      0051C P.AHS:   .LONG   3                                                    ;
              00000000'     00520          .ADDRESS P.AHT                                               ;
                2C  54  41  00524 P.AHV:   .ASCII  \AT,\                                                ;
                            00527          .BLKB   1                                                    ;
              00000003      00528 P.AHU:   .LONG   3                                                    ;
              00000000'     0052C          .ADDRESS P.AHV                                               ;
                2C  55  52  00530 P.AHX:   .ASCII  \RU,\                                                ;
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                                             00533                .BLKB    1
                                  00000003   00534 P.AHW:         .LONG    3                                          ;
                                  00000000'  00538                .ADDRESS P.AHX                                      ;
           2C   55   52   5F   59   4C   4E   4F   0053C P.AHZ:   .ASCII   \ONLY_RU,\                                 ;
                                  00000008   00544 P.AHY:         .LONG    8                                          ;
                                  00000000'  00548                .ADDRESS P.AHZ                                      ;
      2C   55   52   5F   52   45   56   45   4E   0054C P.AIB:   .ASCII   \NEVER_RU,\                                ;
                                             00555                .BLKB    3
                                  00000009   00558 P.AIA:         .LONG    9                                          ;
                                  00000000'  0055C                .ADDRESS P.AIB                                      ;
                                        00   00560 P.AID:         .BYTE    0                                          ;
                                             00561                .BLKB    3
                                  00000001   00564 P.AIC:         .LONG    1                                          ;
                                  00000000'  00568                .ADDRESS P.AID                                      ;
                                        00   0056C P.AIF:         .BYTE    0                                          ;
                                             0056D                .BLKB    3
                                  00000001   00570 P.AIE:         .LONG    1                                          ;
                                  00000000'  00574                .ADDRESS P.AIF                                      ;
                                        00   00578 P.AIH:         .BYTE    0                                          ;
                                             00579                .BLKB    3
                                  00000001   0057C P.AIG:         .LONG    1                                          ;
                                  00000000'  00580                .ADDRESS P.AIH                                      ;

                                                                  .PSECT   $OWN$,NOEXE,2

                                             00040 JOURNAL_FLAG:
                                                                  .BLKB    4


                                                                  .PSECT   $CODE$,NOWRT,2

                                       0FFC  00000 DIR$SHOW_FULL:
                                                                  .WORD    Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11       ; 1523
                      5B      0000V   CF   9E 00002               MOVAB    DIR$APPEND, R11                            ;
                      5A  00000000'   EF   9E 00007               MOVAB    LINE_DESC, R10                             ;
                      5E              08   C2 0000E               SUBL2    #8, SP                                     ;
                      50          E8  AA   D0 00011               MOVL     DISPLAY_BLOCK, R0                          ; 1570
                      51        0119  C0   9A 00015               MOVZBL   281(R0), R1                                ; 1571
                      52        011A  C0   9A 0001A               MOVZBL   282(R0), R2                                ;
                      51              52   C0 0001F               ADDL2    R2, R1                                     ;
                      56        011B  C0   9A 00022               MOVZBL   283(R0), HEADER_LEN                        ; 1572
                      56              51   C0 00027               ADDL2    R1, HEADER_LEN                             ;
                      59          18  A0   9A 0002A               MOVZBL   24(R0), FILENAME_LEN                       ; 1573
                      59              56   C2 0002E               SUBL2    HEADER_LEN, FILENAME_LEN                   ;
                      57          18  A0   9A 00031               MOVZBL   24(R0), NAME_LEN                           ; 1574
                      51        011C  C0   9A 00035               MOVZBL   284(R0), R1                                ;
                      57              51   C2 0003A               SUBL2    R1, NAME_LEN                               ;
 56          00     0424    CA        0524  CA   2D 0003D         CMPC5    PREV_DIR_LEN, PREV_DIR, #0, HEADER_LEN, -  ; 1576
                                  19  A0      00046                        25(R0)                                     ;
                                      57   13 00048               BEQL     3$                                         ;
                                      6A   B5 0004A               TSTW     LINE_DESC                                  ; 1579
                                      0C   13 0004C               BEQL     1$                                         ;
                                      5A   DD 0004E               PUSHL    R10                                        ; 1582
                                      7E   D4 00050               CLRL     -(SP)                                      ;
                    0000G   CF        02   FB 00052               CALLS    #2, DIR$OUTPUT                             ;
                                  D8  AA   D4 00057               CLRL     COLUMN_INDEX                               ; 1583
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                               0524 CA D5 0005A 1$:  TSTL    PREV_DIR_LEN                                  ; 1585
                                    05 13 0005E       BEQL    2$                                            ;
                0000V  CF           00 FB 00060       CALLS   #0, DIR$TOTAL                                 ;
                 0524  CA           56 D0 00065 2$:  MOVL    HEADER_LEN, PREV_DIR_LEN                      ; 1586
                         50       E8 AA D0 0006A       MOVL    DISPLAY_BLOCK, R0                             ; 1587
      0424  CA     19  A0           56 28 0006E       MOVC3   HEADER_LEN, 25(R0), PREV_DIR                  ;
            27     CD  AA           03 E1 00075       BBC     #3, QUAL_FLAGS+1, 3$                          ; 1588
            22     CD  AA           02 E0 0007A       BBS     #2, QUAL_FLAGS+1, 3$                          ; 1589
                              0000' CF 9F 0007F       PUSHAB  P.ACY                                         ; 1592
                                    7E D4 00083       CLRL    -(SP)                                         ;
                0000G  CF           02 FB 00085       CALLS   #2, DIR$OUTPUT                                ;
                               0424 CA 9F 0008A       PUSHAB  PREV_DIR                                      ; 1593
                               0524 CA DD 0008E       PUSHL   PREV_DIR_LEN                                  ;
                              0000' CF 9F 00092       PUSHAB  P.ADA                                         ;
                          00000000G 8F DD 00096       PUSHL   #DIR$_NEWDIRECT                               ;
                0000G  CF           04 FB 0009C       CALLS   #4, DIR$OUTPUT                                ;
                       58      062C CA D0 000A1 3$:  MOVL    VERSION_COUNT, R8                             ; 1599
                                    31 15 000A6       BLEQ    7$                                            ;
                       54        E8 AA D0 000A8       MOVL    DISPLAY_BLOCK, R4                             ; 1603
57          00   0528  CA      0628 CA 2D 000AC       CMPC5   PREV_FILE_LEN, PREV_FILE, #0, NAME_LEN, -     ;
                                 19 A4    000B5               25(R4)                                        ;
                                    06 12 000B7       BNEQ    4$                                            ;
                               0630 CA D6 000B9       INCL    VERSION_INDEX                                 ; 1604
                                    10 11 000BD       BRB     5$                                            ;
                 0628  CA           57 D0 000BF 4$:  MOVL    NAME_LEN, PREV_FILE_LEN                       ; 1607
      0528  CA     19  A4           57 28 000C4       MOVC3   NAME_LEN, 25(R4), PREV_FILE                   ; 1608
                               0630 CA D4 000CB       CLRL    VERSION_INDEX                                 ; 1609
                       58      0630 CA D1 000CF 5$:  CMPL    VERSION_INDEX, R8                             ; 1611
                                    03 19 000D4       BLSS    7$                                            ;
                                  0B38 31 000D6 6$:  BRW     142$                                          ;
                       50        E8 AA D0 000D9 7$:  MOVL    DISPLAY_BLOCK, R0                             ; 1616
                 0408  CA      0131 C0 C0 000DD       ADDL2   305(R0), TOTAL_USED                           ;
                 040C  CA      012D C0 C0 000E4       ADDL2   301(R0), TOTAL_ALLOC                          ; 1617
                               0410 CA D6 000EB       INCL    TOTAL_FILES                                   ; 1618
                                 CE AA 95 000EF       TSTB    QUAL_FLAGS+2                                  ; 1620
                                    E2 19 000F2       BLSS    6$                                            ;
            DD     CD  AA           02 E0 000F4       BBS     #2, QUAL_FLAGS+1, 6$                          ;
                              0000' CF 9F 000F9       PUSHAB  P.ADC                                         ; 1622
                                    7E D4 000FD       CLRL    -(SP)                                         ;
                0000G  CF           02 FB 000FF       CALLS   #2, DIR$OUTPUT                                ;
08          00         6E           00 2C 00104       MOVC5   #0, (SP), #0, #8, LINE_DESC                   ; 1624
                                    6A    00109                                                             ;
                                    6A B4 0010A       CLRW    LINE_DESC                                     ; 1625
                   04  AA        08 AA 9E 0010C       MOVAB   LINE_BUFFER, LINE_DESC+4                      ; 1626
            10     CD  AA           03 E0 00111       BBS     #3, QUAL_FLAGS+1, 8$                          ; 1628
            7E     E8  AA           19 C1 00116       ADDL3   #25, DISPLAY_BLOCK, -(SP)                     ; 1629
                                    56 DD 0011B       PUSHL   HEADER_LEN                                    ;
                              0000' CF 9F 0011D       PUSHAB  P.ADE                                         ;
                                    7E D4 00121       CLRL    -(SP)                                         ;
                       6B           04 FB 00123       CALLS   #4, DIR$APPEND                                ;
            50         56        E8 AA C1 00126 8$:  ADDL3   DISPLAY_BLOCK, HEADER_LEN, R0                 ; 1631
                                 19 A0 9F 0012B       PUSHAB  25(R0)                                        ;
                                    59 DD 0012E       PUSHL   FILENAME_LEN                                  ;
                              0000' CF 9F 00130       PUSHAB  P.ADG                                         ;
                                    7E D4 00134       CLRL    -(SP)                                         ;
                       6B           04 FB 00136       CALLS   #4, DIR$APPEND                                ;
                       56           6A 3C 00139       MOVZWL  LINE_DESC, R6                                 ; 1632
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                                56          14  C6 0013C           DIVL2   #20, R6                                  ;
                                56          14  C4 0013F           MULL2   #20, R6                                  ;
                                50          6A  3C 00142           MOVZWL  LINE_DESC, R0                            ;
                                56          50  C2 00145           SUBL2   R0, R6                                   ;
                                56          14  C0 00148           ADDL2   #20, SPACE_COUNT                         ;
                                03          12  0014B              BNEQ    9$                                       ; 1633
                                56          14  D0 0014D           MOVL    #20, SPACE_COUNT                         ;
                                            56  DD 00150  9$:      PUSHL   SPACE_COUNT                              ; 1634
                                   0000'    CF  9F 00152           PUSHAB  P.ADI                                    ;
                                            7E  D4 00156           CLRL    -(SP)                                    ;
                                6B          03  FB 00158           CALLS   #3, DIR$APPEND                           ;
                                58          6A  3C 0015B           MOVZWL  LINE_DESC, R8                            ; 1635
                                57          58  D0 0015E           MOVL    R8, MARK_POSITION                        ;
                                70       E8 BA  E8 00161           BLBS    @DISPLAY_BLOCK, 11$                      ; 1639
         08         00          6E          00  2C 00165           MOVC5   #0, (SP), #0, #8, LOCAL_DESC             ; 1642
                                            6E     0016A                                                            ;
                    6E     0400 8F          58  A3 0016B           SUBW3   R8, #1024, LOCAL_DESC                    ; 1643
                             04 AE     08 AA48  9E 00171           MOVAB   LINE_BUFFER[R8], LOCAL_DESC+4            ; 1644
                                7E          01  7D 00177           MOVQ    #1, -(SP)                                ; 1648
                                      08    AE  9F 0017A           PUSHAB  LOCAL_DESC                               ;
                                      0C    AE  9F 0017D           PUSHAB  LOCAL_DESC                               ;
                                      E8    BA  DD 00180           PUSHL   @DISPLAY_BLOCK                           ;
                      00000000G 00          05  FB 00183           CALLS   #5, SYS$GETMSG                           ;
                                6A          6E  A0 0018A           ADDW2   LOCAL_DESC, LINE_DESC                    ; 1649
   07E0  CA         6A          10          00  ED 0018D           CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH        ; 1650
                                            33  15 00194           BLEQ    10$                                      ;
                                6A          57  B0 00196           MOVW    MARK_POSITION, LINE_DESC                 ; 1653
                                            5A  DD 00199           PUSHL   R10                                      ; 1654
                                            7E  D4 0019B           CLRL    -(SP)                                    ;
                          0000G CF          02  FB 0019D           CALLS   #2, DIR$OUTPUT                           ;
         14         20          6E          00  2C 001A2           MOVC5   #0, (SP), #32, #20, LINE_BUFFER          ; 1655
                                      08    AA     001A7                                                            ;
                                6E  03EC    8F  B0 001A9           MOVW    #1004, LOCAL_DESC                        ; 1656
                             04 AE    1C    AA  9E 001AE           MOVAB   LINE_BUFFER+20, LOCAL_DESC+4             ; 1657
                                7E          01  7D 001B3           MOVQ    #1, -(SP)                                ; 1661
                                      08    AE  9F 001B6           PUSHAB  LOCAL_DESC                               ;
                                      0C    AE  9F 001B9           PUSHAB  LOCAL_DESC                               ;
                                      E8    BA  DD 001BC           PUSHL   @DISPLAY_BLOCK                           ;
                      00000000G 00          05  FB 001BF           CALLS   #5, SYS$GETMSG                           ;
                                6A          14  A0 001C6           ADDW2   #20, LINE_DESC                           ; 1662
                                            5A  DD 001C9  10$:     PUSHL   R10                                      ; 1664
                                            7E  D4 001CB           CLRL    -(SP)                                    ;
                          0000G CF          02  FB 001CD           CALLS   #2, DIR$OUTPUT                           ;
                                          0A3C  31 001D2           BRW     142$                                     ; 1665
                             50       1C    A7  9E 001D5  11$:     MOVAB   28(R7), R0                               ; 1668
                           07E0 CA          50  D1 001D9           CMPL    R0, DISPLAY_WIDTH                        ;
                                            0C  15 001DE           BLEQ    12$                                      ;
                                6A          56  A2 001E0           SUBW2   SPACE_COUNT, LINE_DESC                   ; 1671
                                            5A  DD 001E3           PUSHL   R10                                      ; 1672
                                            7E  D4 001E5           CLRL    -(SP)                                    ;
                          0000G CF          02  FB 001E7           CALLS   #2, DIR$OUTPUT                           ;
                                1C          6A  B1 001EC  12$:     CMPW    LINE_DESC, #28                           ; 1674
                                            09  1A 001EF           BGTRU   13$                                      ;
                                56          6A  3C 001F1           MOVZWL  LINE_DESC, SPACE_COUNT                   ; 1675
                    56          1E          56  C3 001F4           SUBL3   SPACE_COUNT, #30, SPACE_COUNT            ;
                                            03  11 001F8           BRB     14$                                      ;
                                56          02  D0 001FA  13$:     MOVL    #2, SPACE_COUNT                          ; 1676
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                               50          E8   AA  D0 001FD 14$:   MOVL    DISPLAY_BLOCK, R0                   ; 1677
                               51        0123   C0  3C 00201        MOVZWL  291(R0), R1                         ;
                                                0C  12 00206        BNEQ    15$                                 ;
                                         0125   C0  B5 00208        TSTW    293(R0)                             ; 1678
                                                06  12 0020C        BNEQ    15$                                 ;
                                         0127   C0  B5 0020E        TSTW    295(R0)                             ; 1679
                                                1D  13 00212        BEQL    16$                                 ;
                               7E        0127   C0  3C 00214 15$:   MOVZWL  295(R0), -(SP)                      ; 1683
                               7E        0125   C0  3C 00219        MOVZWL  293(R0), -(SP)                      ;
                                                51  DD 0021E        PUSHL   R1                                  ;
                                                56  DD 00220        PUSHL   SPACE_COUNT                         ;
                                        0000'   CF  9F 00222        PUSHAB  P.ADK                               ;
                                    00000000G   8F  DD 00226        PUSHL   #DIR$_FULLFILEID                    ;
                               6B               06  FB 0022C        CALLS   #6, DIR$APPEND                      ;
                                                0F  11 0022F        BRB     17$                                 ;
                                                56  DD 00231 16$:   PUSHL   SPACE_COUNT                         ; 1684
                                        0000'   CF  9F 00233        PUSHAB  P.ADM                               ;
                                    00000000G   8F  DD 00237        PUSHL   #DIR$_NOFUFILEID                    ;
                               6B               03  FB 0023D        CALLS   #3, DIR$APPEND                      ;
                                                5A  DD 00240 17$:   PUSHL   R10                                 ; 1685
                                                7E  D4 00242        CLRL    -(SP)                               ;
                        0000G  CF               02  FB 00244        CALLS   #2, DIR$OUTPUT                      ;
                               50          E8   AA  D0 00249        MOVL    DISPLAY_BLOCK, R0                   ; 1688
                                         012D   C0  DD 0024D        PUSHL   301(R0)                             ;
                                         0131   C0  DD 00251        PUSHL   305(R0)                             ;
                                        0000'   CF  9F 00255        PUSHAB  P.ADO                               ;
                                    00000000G   8F  DD 00259        PUSHL   #DIR$_FULLSIZE                      ;
                               6B               04  FB 0025F        CALLS   #4, DIR$APPEND                      ;
                               57               6A  3C 00262        MOVZWL  LINE_DESC, MARK_POSITION            ; 1689
                               50          E8   AA  D0 00265        MOVL    DISPLAY_BLOCK, R0                   ; 1691
                               51          E8   AA  D0 00269        MOVL    DISPLAY_BLOCK, R1                   ; 1690
                                         0119   C1  95 0026D        TSTB    281(R1)                             ;
                                                10  12 00271        BNEQ    18$                                 ;
                                         014E   C0  DD 00273        PUSHL   334(R0)                             ; 1691
                                        0000'   CF  9F 00277        PUSHAB  P.ADQ                               ;
                                    00000000G   8F  DD 0027B        PUSHL   #DIR$_FULLOWNERID                   ;
                                                0E  11 00281        BRB     19$                                 ;
                                         014E   C0  DD 00283 18$:   PUSHL   334(R0)                             ; 1692
                                        0000'   CF  9F 00287        PUSHAB  P.ADS                               ;
                                    00000000G   8F  DD 0028B        PUSHL   #DIR$_FULLOWNERUIC                  ;
                               6B               03  FB 00291 19$:   CALLS   #3, DIR$APPEND                      ;
  07E0    CA           6A      10               00  ED 00294        CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH   ; 1693
                                                3B  15 0029B        BLEQ    22$                                 ;
                               6A               57  B0 0029D        MOVW    MARK_POSITION, LINE_DESC            ; 1696
                                                5A  DD 002A0        PUSHL   R10                                 ; 1697
                                                7E  D4 002A2        CLRL    -(SP)                               ;
                        0000G  CF               02  FB 002A4        CALLS   #2, DIR$OUTPUT                      ;
                               50          E8   AA  D0 002A9        MOVL    DISPLAY_BLOCK, R0                   ; 1699
                               51          E8   AA  D0 002AD        MOVL    DISPLAY_BLOCK, R1                   ; 1698
                                         0119   C1  95 002B1        TSTB    281(R1)                             ;
                                                10  12 002B5        BNEQ    20$                                 ;
                                         014E   C0  DD 002B7        PUSHL   334(R0)                             ; 1699
                                        0000'   CF  9F 002BB        PUSHAB  P.ADU                               ;
                                    00000000G   8F  DD 002BF        PUSHL   #DIR$_FULLOWNERID                   ;
                                                0E  11 002C5        BRB     21$                                 ;
                                         014E   C0  DD 002C7 20$:   PUSHL   334(R0)                             ; 1700
                                        0000'   CF  9F 002CB        PUSHAB  P.ADW                               ;
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                   00000000G  8F   DD 002CF          PUSHL   #DIR$_FULLOWNERUIC                     ;
             6B               03   FB 002D5 21$:     CALLS   #3, DIR$APPEND                         ;
                              5A   DD 002D8 22$:     PUSHL   R10                                    ;  1702
                              7E   D4 002DA          CLRL    -(SP)                                  ;
       0000G CF               02   FB 002DC          CALLS   #2, DIR$OUTPUT                         ;
             50        E8     AA   D0 002E1          MOVL    DISPLAY_BLOCK, R0                      ;  1703
                     0170     C0   D5 002E5          TSTL    368(R0)                                ;
                              11   12 002E9          BNEQ    23$                                    ;
                     0174     C0   D5 002EB          TSTL    372(R0)                                ;
                              0B   12 002EF          BNEQ    23$                                    ;
                   00000000G  8F   DD 002F1          PUSHL   #DIR$_NOFUCREDAT                       ;  1704
             6B               01   FB 002F7          CALLS   #1, DIR$APPEND                         ;
                              11   11 002FA          BRB     24$                                    ;
                     0170     C0   9F 002FC 23$:     PUSHAB  368(R0)                                ;  1705
                     0000'    CF   9F 00300          PUSHAB  P.ADY                                  ;
                   00000000G  8F   DD 00304          PUSHL   #DIR$_FULLCREDAT                       ;
             6B               03   FB 0030A          CALLS   #3, DIR$APPEND                         ;
             52        E8     AA   D0 0030D 24$:     MOVL    DISPLAY_BLOCK, R2                      ;  1706
                     0178     C2   D5 00311          TSTL    376(R2)                                ;
                              11   12 00315          BNEQ    25$                                    ;
                     017C     C2   D5 00317          TSTL    380(R2)                                ;
                              0B   12 0031B          BNEQ    25$                                    ;
                   00000000G  8F   DD 0031D          PUSHL   #DIR$_NOFUREVDAT                       ;  1707
             6B               01   FB 00323          CALLS   #1, DIR$APPEND                         ;
                              16   11 00326          BRB     26$                                    ;
             7E      016E     C2   3C 00328 25$:     MOVZWL  366(R2), -(SP)                         ;  1709
                     0178     C2   9F 0032D          PUSHAB  376(R2)                                ;
                     0000'    CF   9F 00331          PUSHAB  P.AEA                                  ;
                   00000000G  8F   DD 00335          PUSHL   #DIR$_FULLREVDAT                       ;
             6B               04   FB 0033B          CALLS   #4, DIR$APPEND                         ;
                              5A   DD 0033E 26$:     PUSHL   R10                                    ;  1710
                              7E   D4 00340          CLRL    -(SP)                                  ;
       0000G CF               02   FB 00342          CALLS   #2, DIR$OUTPUT                         ;
             50        E8     AA   D0 00347          MOVL    DISPLAY_BLOCK, R0                      ;  1712
                     0180     C0   D5 0034B          TSTL    384(R0)                                ;
                              11   12 0034F          BNEQ    27$                                    ;
                     0184     C0   D5 00351          TSTL    388(R0)                                ;
                              0B   12 00355          BNEQ    27$                                    ;
                   00000000G  8F   DD 00357          PUSHL   #DIR$_NOFUEXPDAT                       ;  1713
             6B               01   FB 0035D          CALLS   #1, DIR$APPEND                         ;
                              11   11 00360          BRB     28$                                    ;
                     0180     C0   9F 00362 27$:     PUSHAB  384(R0)                                ;  1714
                     0000'    CF   9F 00366          PUSHAB  P.AEC                                  ;
                   00000000G  8F   DD 0036A          PUSHL   #DIR$_FULLEXPDAT                       ;
             6B               03   FB 00370          CALLS   #3, DIR$APPEND                         ;
             50        E8     AA   D0 00373 28$:     MOVL    DISPLAY_BLOCK, R0                      ;  1715
                     0188     C0   D5 00377          TSTL    392(R0)                                ;
                              11   12 0037B          BNEQ    29$                                    ;
                     018C     C0   D5 0037D          TSTL    396(R0)                                ;
                              0B   12 00381          BNEQ    29$                                    ;
                   00000000G  8F   DD 00383          PUSHL   #DIR$_NOFUBAKDAT                       ;  1716
             6B               01   FB 00389          CALLS   #1, DIR$APPEND                         ;
                              11   11 0038C          BRB     30$                                    ;
                     0188     C0   9F 0038E 29$:     PUSHAB  392(R0)                                ;  1717
                     0000'    CF   9F 00392          PUSHAB  P.AEE                                  ;
                   00000000G  8F   DD 00396          PUSHL   #DIR$_FULLBAKDAT                       ;
             6B               03   FB 0039C          CALLS   #3, DIR$APPEND                         ;
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                                          5A  DD 0039F 30$:     PUSHL   R10                                   ; 1718
                                          7E  D4 003A1          CLRL    -(SP)                                 ;
                          0000G  CF       02  FB 003A3          CALLS   #2, DIR$OUTPUT                        ;
                               00000000G  8F  DD 003A8          PUSHL   #DIR$_FILEORG                         ; 1720
                                 6B       01  FB 003AE          CALLS   #1, DIR$APPEND                        ;
                                 52   E8  AA  D0 003B1          MOVL    DISPLAY_BLOCK, R2                     ; 1721
           53     0129   C2      04       04  EF 003B5          EXTZV   #4, #4, 297(R2), R3                   ;
                                          0B  12 003BC          BNEQ    31$                                   ; 1723
                               00000000G  8F  DD 003BE          PUSHL   #DIR$_FILORGSEQ                       ;
                                 6B       01  FB 003C4          CALLS   #1, DIR$APPEND                        ;
                                          7A  11 003C7          BRB     35$                                   ;
                                 01       53  D1 003C9 31$:     CMPL    R3, #1                                ; 1724
                                          10  12 003CC          BNEQ    32$                                   ;
                                    0190  C2  DD 003CE          PUSHL   400(R2)                               ;
                                    0000' CF  9F 003D2          PUSHAB  P.AEG                                 ;
                               00000000G  8F  DD 003D6          PUSHL   #DIR$_FILORGREL                       ;
                                          62  11 003DC          BRB     34$                                   ;
                                 02       53  D1 003DE 32$:     CMPL    R3, #2                                ; 1725
                                          51  12 003E1          BNEQ    33$                                   ;
                               00000000G  8F  DD 003E3          PUSHL   #DIR$_FILORGIDX                       ; 1726
                                 6B       01  FB 003E9          CALLS   #1, DIR$APPEND                        ;
                                 50   E8  AA  D0 003EC          MOVL    DISPLAY_BLOCK, R0                     ; 1727
                                 51 0195  C0  9A 003F0          MOVZBL  405(R0), R1                           ;
                                          4C  13 003F5          BEQL    35$                                   ;
                                          51  DD 003F7          PUSHL   R1                                    ; 1731
                                 7E 0196  C0  3C 003F9          MOVZWL  406(R0), -(SP)                        ;
                                    0000' CF  9F 003FE          PUSHAB  P.AEI                                 ;
                               00000000G  8F  DD 00402          PUSHL   #DIR$_IDXPROLOG                       ;
                                 6B       04  FB 00408          CALLS   #4, DIR$APPEND                        ;
                                 50   E8  AA  D0 0040B          MOVL    DISPLAY_BLOCK, R0                     ; 1732
                                 01 0194  C0  91 0040F          CMPB    404(R0), #1                           ;
                                          2D  1B 00414          BLEQU   35$                                   ;
                                          5A  DD 00416          PUSHL   R10                                   ; 1735
                                          7E  D4 00418          CLRL    -(SP)                                 ;
                          0000G  CF       02  FB 0041A          CALLS   #2, DIR$OUTPUT                        ;
                                 50   E8  AA  D0 0041F          MOVL    DISPLAY_BLOCK, R0                     ; 1736
                                 7E 0194  C0  9A 00423          MOVZBL  404(R0), -(SP)                        ;
                                    0000' CF  9F 00428          PUSHAB  P.AEK                                 ;
                               00000000G  8F  DD 0042C          PUSHL   #DIR$_IDXAREA                         ;
                                          0C  11 00432          BRB     34$                                   ;
                                          53  DD 00434 33$:     PUSHL   R3                                    ; 1740
                                    0000' CF  9F 00436          PUSHAB  P.AEM                                 ;
                               00000000G  8F  DD 0043A          PUSHL   #DIR$_FILORGUNK                       ;
                                 6B       03  FB 00440 34$:     CALLS   #3, DIR$APPEND                        ;
                                          5A  DD 00443 35$:     PUSHL   R10                                   ; 1742
                                          7E  D4 00445          CLRL    -(SP)                                 ;
                          0000G  CF       02  FB 00447          CALLS   #2, DIR$OUTPUT                        ;
                                 50   E8  AA  D0 0044C          MOVL    DISPLAY_BLOCK, R0                     ; 1744
                                 7E 013B  C0  3C 00450          MOVZWL  315(R0), -(SP)                        ;
                                    012D  C0  DD 00455          PUSHL   301(R0)                               ;
                                    0000' CF  9F 00459          PUSHAB  P.AEO                                 ;
                               00000000G  8F  DD 0045D          PUSHL   #DIR$_FILEATTR                        ;
                                 6B       04  FB 00463          CALLS   #4, DIR$APPEND                        ;
                                 57       6A  3C 00466          MOVZWL  LINE_DESC, MARK_POSITION              ; 1745
                                 50   E8  AA  D0 00469          MOVL    DISPLAY_BLOCK, R0                     ; 1746
                                    0137  C0  95 0046D          TSTB    311(R0)                               ;
                                          6A  13 00471          BEQL    41$                                   ;
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                                       52            01  D0 00473          MOVL    #1, J                                     ; 1749
                                                     6A  B5 00476 36$:     TSTW    LINE_DESC                                 ; 1752
                                                     09  13 00478          BEQL    37$
                                              0000'  CF  9F 0047A          PUSHAB  P.AEQ
                                                     7E  D4 0047E          CLRL    -(SP)
                                       6B            02  FB 00480          CALLS   #2, DIR$APPEND
                                                     6A  B5 00483 37$:     TSTW    LINE_DESC                                 ; 1753
                                                     09  12 00485          BNEQ    38$
                                              0000'  CF  9F 00487          PUSHAB  P.AES
                                                     7E  D4 0048B          CLRL    -(SP)
                                       6B            02  FB 0048D          CALLS   #2, DIR$APPEND
                                       50       E8   AA  D0 00490 38$:     MOVL    DISPLAY_BLOCK, R0                         ; 1755
                                       51       E8   AA  D0 00494          MOVL    DISPLAY_BLOCK, R1                         ; 1754
           02     0129   C1            04            04  ED 00498          CMPZV   #4, #4, 297(R1), #2
                                                     11  12 0049F          BNEQ    39$
                                       7E      0137  C0  9A 004A1          MOVZBL  311(R0), -(SP)                            ; 1755
                                              0000'  CF  9F 004A6          PUSHAB  P.AEU
                                          00000000G  8F  DD 004AA          PUSHL   #DIR$_MAXBKTSIZ
                                                     0F  11 004B0          BRB     40$
                                       7E      0137  C0  9A 004B2 39$:     MOVZBL  311(R0), -(SP)                            ; 1756
                                              0000'  CF  9F 004B7          PUSHAB  P.AEW
                                          00000000G  8F  DD 004BB          PUSHL   #DIR$_BUCKETSIZ
                                       6B            03  FB 004C1 40$:     CALLS   #3, DIR$APPEND
    07E0   CA            6A            10            00  ED 004C4          CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH         ; 1757
                                                     10  15 004CB          BLEQ    41$
                                       6A            57  B0 004CD          MOVW    MARK_POSITION, LINE_DESC                  ; 1760
                                                     5A  DD 004D0          PUSHL   R10                                       ; 1761
                                                     7E  D4 004D2          CLRL    -(SP)
                                0000G  CF            02  FB 004D4          CALLS   #2, DIR$OUTPUT
                         99            52            02  F3 004D9          AOBLEQ  #2, J, 36$                                ; 1749
                                       57            6A  3C 004DD 41$:     MOVZWL  LINE_DESC, MARK_POSITION                  ; 1766
                                       52            01  D0 004E0          MOVL    #1, J                                     ; 1767
                                                     6A  B5 004E3 42$:     TSTW    LINE_DESC                                 ; 1770
                                                     09  13 004E5          BEQL    43$
                                              0000'  CF  9F 004E7          PUSHAB  P.AEY
                                                     7E  D4 004EB          CLRL    -(SP)
                                       6B            02  FB 004ED          CALLS   #2, DIR$APPEND
                                                     6A  B5 004F0 43$:     TSTW    LINE_DESC                                 ; 1771
                                                     09  12 004F2          BNEQ    44$
                                              0000'  CF  9F 004F4          PUSHAB  P.AFA
                                                     7E  D4 004F8          CLRL    -(SP)
                                       6B            02  FB 004FA          CALLS   #2, DIR$APPEND
                                       50       E8   AA  D0 004FD 44$:     MOVL    DISPLAY_BLOCK, R0                         ; 1772
                                       7E      013D  C0  3C 00501          MOVZWL  317(R0), -(SP)
                                              0000'  CF  9F 00506          PUSHAB  P.AFC
                                          00000000G  8F  DD 0050A          PUSHL   #DIR$_GBLBUFCNT
                                       6B            03  FB 00510          CALLS   #3, DIR$APPEND
    07E0   CA            6A            10            00  ED 00513          CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH         ; 1773
                                                     10  15 0051A          BLEQ    45$
                                       6A            57  B0 0051C          MOVW    MARK_POSITION, LINE_DESC                  ; 1776
                                                     5A  DD 0051F          PUSHL   R10                                       ; 1777
                                                     7E  D4 00521          CLRL    -(SP)
                                0000G  CF            02  FB 00523          CALLS   #2, DIR$OUTPUT
                         B7            52            02  F3 00528          AOBLEQ  #2, J, 42$                                ; 1767
                                       57            6A  3C 0052C 45$:     MOVZWL  LINE_DESC, MARK_POSITION                  ; 1781
                                       52            01  D0 0052F          MOVL    #1, J                                     ; 1782
                                                     6A  B5 00532 46$:     TSTW    LINE_DESC                                 ; 1785
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                                             09  13 00534          BEQL     47$                                    ;
                                 0000'       CF  9F 00536          PUSHAB   P.AFE                                  ;
                                             7E  D4 0053A          CLRL     -(SP)                                  ;
                         6B                  02  FB 0053C          CALLS    #2, DIR$APPEND                         ;
                                             6A  B5 0053F  47$:    TSTW     LINE_DESC                              ; 1786
                                             09  12 00541          BNEQ     48$                                    ;
                                 0000'       CF  9F 00543          PUSHAB   P.AFG                                  ;
                                             7E  D4 00547          CLRL     -(SP)                                  ;
                         6B                  02  FB 00549          CALLS    #2, DIR$APPEND                         ;
                         50         E8       AA  D0 0054C  48$:    MOVL     DISPLAY_BLOCK, R0                      ; 1787
                 7FFF    8F       011D       C0  B1 00550          CMPW     285(R0), #32767                        ;
                                             0B  12 00557          BNEQ     49$                                    ;
                             00000000G       8F  DD 00559          PUSHL    #DIR$_NOVERLIMIT                       ; 1788
                         6B                  01  FB 0055F          CALLS    #1, DIR$APPEND                         ;
                                             12  11 00562          BRB      50$                                    ;
                         7E       011D       C0  3C 00564  49$:    MOVZWL   285(R0), -(SP)                         ; 1789
                                  0000'      CF  9F 00569          PUSHAB   P.AFI                                  ;
                             00000000G       8F  DD 0056D          PUSHL    #DIR$_VERLIMIT                         ;
                         6B                  03  FB 00573          CALLS    #3, DIR$APPEND                         ;
 07E0    CA        6A    10                  00  ED 00576  50$:    CMPZV    #0, #16, LINE_DESC, DISPLAY_WIDTH      ; 1790
                                             10  15 0057D          BLEQ     51$                                    ;
                         6A                  57  B0 0057F          MOVW     MARK_POSITION, LINE_DESC               ; 1793
                                             5A  DD 00582          PUSHL    R10                                    ; 1794
                                             7E  D4 00584          CLRL     -(SP)                                  ;
                  0000G  CF                  02  FB 00586          CALLS    #2, DIR$OUTPUT                         ;
                   A3    52                  02  F3 0058B          AOBLEQ   #2, J, 46$                             ; 1782
                         57                  6A  3C 0058F  51$:    MOVZWL   LINE_DESC, MARK_POSITION               ; 1798
                         50         E8       AA  D0 00592          MOVL     DISPLAY_BLOCK, R0                      ; 1799
                                  0149       C0  95 00596          TSTB     329(R0)                                ;
                                             3F  18 0059A          BGEQ     55$                                    ;
                         52                  01  D0 0059C          MOVL     #1, J                                  ; 1802
                                             6A  B5 0059F  52$:    TSTW     LINE_DESC                              ; 1805
                                             09  13 005A1          BEQL     53$                                    ;
                                 0000'       CF  9F 005A3          PUSHAB   P.AFK                                  ;
                                             7E  D4 005A7          CLRL     -(SP)                                  ;
                         6B                  02  FB 005A9          CALLS    #2, DIR$APPEND                         ;
                                             6A  B5 005AC  53$:    TSTW     LINE_DESC                              ; 1806
                                             09  12 005AE          BNEQ     54$                                    ;
                                 0000'       CF  9F 0C5B0          PUSHAB   P.AFM                                  ;
                                             7E  D4 005B4          CLRL     -(SP)                                  ;
                         6B                  02  FB 005B6          CALLS    #2, DIR$APPEND                         ;
                             00000000G       8F  DD 005B9  54$:    PUSHL    #DIR$_FILATRCTG                        ; 1807
                         6B                  01  FB 005BF          CALLS    #1, DIR$APPEND                         ;
 07E0    CA        6A    10                  00  ED 005C2          CMPZV    #0, #16, LINE_DESC, DISPLAY_WIDTH      ; 1808
                                             10  15 005C9          BLEQ     55$                                    ;
                         6A                  57  B0 005CB          MOVW     MAPK_POSITION, LINE_DESC               ; 1811
                                             5A  DD 005CE          PUSHL    R10                                    ; 1812
                                             7E  D4 005D0          CLRL     -(SP)                                  ;
                  0000G  CF                  02  FB 005D2          CALLS    #2, DIR$OUTPUT                         ;
                   C4    52                  02  F3 005D7          AOBLEQ   #2, J, 52$                             ; 1802
                         57                  6A  3C 005DB  55$:    MOVZWL   LINE_DESC, MARK_POSITION               ; 1817
                         50         E8       AA  D0 005DE          MOVL     DISPLAY_BLOCK, R0                      ; 1818
                   3F    0149                C0  05 E1 005E2       BBC      #5, 329(R0), 59$                       ;
                         52                  01  D0 005E8          MOVL     #1, J                                  ; 1821
                                             6A  B5 005EB  56$:    TSTW     LINE_DESC                              ; 1824
                                             09  13 005ED          BEQL     57$                                    ;
                                 0000'       CF  9F 005EF          PUSHAB   P.AFO                                  ;
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                                                     7E  D4 005F3         CLRL    -(SP)                                   ;
                                      6B             02  FB 005F5         CALLS   #2, DIR$APPEND                          ;
                                                     6A  B5 005F8 57$:    TSTW    LINE_DESC                               ; 1825
                                                     09  12 005FA         BNEQ    58$                                     ;
                                              0000'  CF  9F 005FC         PUSHAB  P.AFQ                                   ;
                                                     7E  D4 00600         CLRL    -(SP)                                   ;
                                      6B             02  FB 00602         CALLS   #2, DIR$APPEND                          ;
                                          00000000G  8F  DD 00605 58$:    PUSHL   #DIR$_FILATRCTB                         ; 1826
                                      6B             01  FB 0060B         CALLS   #1, DIR$APPEND                          ;
07E0    CA              6A            10             00  ED 0060E         CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 1827
                                                     10  15 00615         BLEQ    59$                                     ;
                                      6A             57  B0 00617         MOVW    MARK_POSITION, LINE_DESC                ; 1830
                                                     5A  DD 0061A         PUSHL   R10                                     ; 1831
                                                     7E  D4 0061C         CLRL    -(SP)                                   ;
                              0000G   CF             02  FB 0061E         CALLS   #2, DIR$OUTPUT                          ;
                        C4            52             02  F3 00623         AOBLEQ  #2, J, 56$                              ; 1821
                                      57             6A  3C 00627 59$:    MOVZWL  LINE_DESC, MARK_POSITION                ; 1836
                                      50         E8  AA  D0 0062A         MOVL    DISPLAY_BLOCK, R0                       ; 1837
                        3F     0149   C0             06  E1 0062E         BBC     #6, 329(R0), 63$                        ;
                                      52             01  D0 00634         MOVL    #1, J                                   ; 1840
                                                     6A  B5 00637 60$:    TSTW    LINE_DESC                               ; 1843
                                                     09  13 00639         BEQL    61$                                     ;
                                              0000'  CF  9F 0063B         PUSHAB  P.AFS                                   ;
                                                     7E  D4 0063F         CLRL    -(SP)                                   ;
                                      6B             02  FB 00641         CALLS   #2, DIR$APPEND                          ;
                                                     6A  B5 00644 61$:    TSTW    LINE_DESC                               ; 1844
                                                     09  12 00646         BNEQ    62$                                     ;
                                              0000'  CF  9F 00648         PUSHAB  P.AFU                                   ;
                                                     7E  D4 0064C         CLRL    -(SP)                                   ;
                                      6B             02  FB 0064E         CALLS   #2, DIR$APPEND                          ;
                                          00000000G  8F  DD 00651 62$:    PUSHL   #DIR$_FILATRLCK                         ; 1845
                                      6B             01  FB 00657         CALLS   #1, DIR$APPEND                          ;
07E0    CA              6A            10             00  ED 0065A         CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 1846
                                                     10  15 00661         BLEQ    63$                                     ;
                                      6A             57  B0 00663         MOVW    MARK_POSITION, LINE_DESC                ; 1849
                                                     5A  DD 00666         PUSHL   R10                                     ; 1850
                                                     7E  D4 00668         CLRL    -(SP)                                   ;
                              0000G   CF             02  FB 0066A         CALLS   #2, DIR$OUTPUT                          ;
                        C4            52             02  F3 0066F         AOBLEQ  #2, J, 60$                              ; 1840
                                      57             6A  3C 00673 63$:    MOVZWL  LINE_DESC, MARK_POSITION                ; 1855
                                      50         E8  AA  D0 00676         MOVL    DISPLAY_BLOCK, R0                       ; 1856
                        3F     0149   C0             01  E1 0067A         BBC     #1, 329(R0), 67$                        ;
                                      52             01  D0 00680         MOVL    #1, J                                   ; 1859
                                                     6A  B5 00683 64$:    TSTW    LINE_DESC                               ; 1862
                                                     09  13 00685         BEQL    65$                                     ;
                                              0000'  CF  9F 00687         PUSHAB  P.AFW                                   ;
                                                     7E  D4 0068B         CLRL    -(SP)                                   ;
                                      6B             02  FB 0068D         CALLS   #2, DIR$APPEND                          ;
                                                     6A  B5 00690 65$:    TSTW    LINE_DESC                               ; 1863
                                                     09  12 00692         BNEQ    66$                                     ;
                                              0000'  CF  9F 00694         PUSHAB  P.AFY                                   ;
                                                     7E  D4 00698         CLRL    -(SP)                                   ;
                                      6B             02  FB 0069A         CALLS   #2, DIR$APPEND                          ;
                                          00000000G  8F  DD 0069D 66$:    PUSHL   #DIR$_FILATRNOBAK                       ; 1864
                                      6B             01  FB 006A3         CALLS   #1, DIR$APPEND                          ;
07E0    CA              6A            10             00  ED 006A6         CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 1865
                                                     10  15 006AD         BLEQ    67$                                     ;
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                                            6A              57 B0 006AF       MOVW    MARK_POSITION, LINE_DESC                ; 1868
                                                            5A DD 006B2       PUSHL   R10                                     ; 1869
                                                            7E D4 006B4       CLRL    -(SP)                                   ;
                                    0000G   CF              02 FB 006B6       CALLS   #2, DIR$OUTPUT                          ;
                            C4              52              02 F3 006BB       AOBLEQ  #2, J, 64$                              ; 1859
                                            57              6A 3C 006BF 67$:  MOVZWL  LINE_DESC, MARK_POSITION                ; 1874
                                            50         E8   AA D0 006C2       MOVL    DISPLAY_BLOCK, R0                       ; 1875
                            3F       0149   C0              02 E1 006C6       BBC     #2, 329(R0), 71$                        ;
                                            52              01 D0 006CC       MOVL    #1, J                                   ; 1878
                                                            6A B5 006CF 68$:  TSTW    LINE_DESC                               ; 1881
                                                            09 13 006D1       BEQL    69$                                     ;
                                                    0000'   CF 9F 006D3       PUSHAB  P.AGA                                   ;
                                                            7E D4 006D7       CLRL    -(SP)                                   ;
                                            6B              02 FB 006D9       CALLS   #2, DIR$APPEND                          ;
                                                            6A B5 006DC 69$:  TSTW    LINE_DESC                               ; 1882
                                                            09 12 006DE       BNEQ    70$                                     ;
                                                    0000'   CF 9F 006E0       PUSHAB  P.AGC                                   ;
                                                            7E D4 006E4       CLRL    -(SP)                                   ;
                                            6B              02 FB 006E6       CALLS   #2, DIR$APPEND                          ;
                                                00000000G   8F DD 006E9 70$:  PUSHL   #DIR$_FILATRWRBAK                       ; 1883
                                            6B              01 FB 006EF       CALLS   #1, DIR$APPEND                          ;
07E0    CA                  6A              10              00 ED 006F2       CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 1884
                                                            10 15 006F9       BLEQ    71$                                     ;
                                            6A              57 B0 006FB       MOVW    MARK_POSITION, LINE_DESC                ; 1887
                                                            5A DD 006FE       PUSHL   R10                                     ; 1888
                                                            7E D4 00700       CLRL    -(SP)                                   ;
                                    0000G   CF              02 FB 00702       CALLS   #2, DIR$OUTPUT                          ;
                            C4              52              02 F3 00707       AOBLEQ  #2, J, 68$                              ; 1878
                                            57              6A 3C 0070B 71$:  MOVZWL  LINE_DESC, MARK_POSITION                ; 1893
                                            50         E8   AA D0 0070E       MOVL    DISPLAY_BLOCK, R0                       ; 1894
                            3F       0149   C0              03 E1 00712       BBC     #3, 329(R0), 75$                        ;
                                            52              01 D0 00718       MOVL    #1, J                                   ; 1897
                                                            6A B5 0071B 72$:  TSTW    LINE_DESC                               ; 1900
                                                            09 13 0071D       BEQL    73$                                     ;
                                                    0000'   CF 9F 0071F       PUSHAB  P.AGE                                   ;
                                                            7E D4 00723       CLRL    -(SP)                                   ;
                                            6B              02 FB 00725       CALLS   #2, DIR$APPEND                          ;
                                                            6A B5 00728 73$:  TSTW    LINE_DESC                               ; 1901
                                                            09 12 0072A       BNEQ    74$                                     ;
                                                    0000'   CF 9F 0072C       PUSHAB  P.AGG                                   ;
                                                            7E D4 00730       CLRL    -(SP)                                   ;
                                            6B              02 FB 00732       CALLS   #2, DIR$APPEND                          ;
                                                00000000G   8F DD 00735 74$:  PUSHL   #DIR$_FILATRRDCHK                       ; 1902
                                            6B              01 FB 0073B       CALLS   #1, DIR$APPEND                          ;
07E0    CA                  6A              10              00 ED 0073E       CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 1903
                                                            10 15 00745       BLEQ    75$                                     ;
                                            6A              57 B0 00747       MOVW    MARK_POSITION, LINE_DESC                ; 1906
                                                            5A DD 0074A       PUSHL   R10                                     ; 1907
                                                            7E D4 0074C       CLRL    -(SP)                                   ;
                                    0000G   CF              02 FB 0074E       CALLS   #2, DIR$OUTPUT                          ;
                            C4              52              02 F3 00753       AOBLEQ  #2, J, 72$                              ; 1897
                                            57              6A 3C 00757 75$:  MOVZWL  LINE_DESC, MARK_POSITION                ; 1912
                                            50         E8   AA D0 0075A       MOVL    DISPLAY_BLOCK, R0                       ; 1913
                            3F       0149   C0              04 E1 0075E       BBC     #4, 329(R0), 79$                        ;
                                            52              01 D0 00764       MOVL    #1, J                                   ; 1916
                                                            6A B5 00767 76$:  TSTW    LINE_DESC                               ; 1919
                                                            09 13 00769       BEQL    77$                                     ;
                                    0000'  CF  9F 0076B          PUSHAB  P.AGI                                  ;
                                           7E  D4 0076F          CLRL    -(SP)                                  ;
                      6B                   02  FB 00771          CALLS   #2, DIR$APPEND                         ;
                                           6A  B5 00774 77$:     TSTW    LINE_DESC                              ; 1920
                                           09  12 00776          BNEQ    78$                                    ;
                                    0000'  CF  9F 00778          PUSHAB  P.AGK                                  ;
                                           7E  D4 0077C          CLRL    -(SP)                                  ;
                      6B                   02  FB 0077E          CALLS   #2, DIR$APPEND                         ;
                                00000000G  8F  DD 00781 78$:     PUSHL   #DIR$_FILATRWRCHK                      ; 1921
                      6B                   01  FB 00787          CALLS   #1, DIR$APPEND                         ;
 07E0    CA           6A               10  00  ED 0078A          CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH      ; 1922
                                           10  15 00791          BLEQ    79$                                    ;
                      6A                   57  B0 00793          MOVW    MARK_POSITION, LINE_DESC               ; 1925
                                           5A  DD 00796          PUSHL   R10                                    ; 1926
                                           7E  D4 00798          CLRL    -(SP)                                  ;
                             0000G     CF  02  FB 0079A          CALLS   #2, DIR$OUTPUT                         ;
                      C4               52  02  F3 0079F          AOBLEQ  #2, J, 76$                             ; 1916
                                       57  6A  3C 007A3 79$:     MOVZWL  LINE_DESC, MARK_POSITION               ; 1931
                                       50  E8  AA  D0 007A6      MOVL    DISPLAY_BLOCK, R0                      ; 1932
                      3F     014A      C0  03  E1 007AA          BBC     #3, 330(R0), 83$                       ;
                                       52  01  D0 007B0          MOVL    #1, J                                  ; 1935
                                           6A  B5 007B3 80$:     TSTW    LINE_DESC                              ; 1938
                                           09  13 007B5          BEQL    81$                                    ;
                                    0000'  CF  9F 007B7          PUSHAB  P.AGM                                  ;
                                           7E  D4 007BB          CLRL    -(SP)                                  ;
                      6B                   02  FB 007BD          CALLS   #2, DIR$APPEND                         ;
                                           6A  B5 007C0 81$:     TSTW    LINE_DESC                              ; 1939
                                           09  12 007C2          BNEQ    82$                                    ;
                                    0000'  CF  9F 007C4          PUSHAB  P.AGO                                  ;
                                           7E  D4 007C8          CLRL    -(SP)                                  ;
                      6B                   02  FB 007CA          CALLS   #2, DIR$APPEND                         ;
                                00000000G  8F  DD 007CD 82$:     PUSHL   #DIR$_FILATRBADACL                     ; 1940
                      6B                   01  FB 007D3          CALLS   #1, DIR$APPEND                         ;
 07E0    CA           6A               10  00  ED 007D6          CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH      ; 1941
                                           10  15 007DD          BLEQ    83$                                    ;
                      6A                   57  B0 007DF          MOVW    MARK_POSITION, LINE_DESC               ; 1944
                                           5A  DD 007E2          PUSHL   R10                                    ; 1945
                                           7E  D4 007E4          CLRL    -(SP)                                  ;
                             0000G     CF  02  FB 007E6          CALLS   #2, DIR$OUTPUT                         ;
                      C4               52  02  F3 007EB          AOBLEQ  #2, J, 80$                             ; 1935
                                       57  6A  3C 007EF 83$:     MOVZWL  LINE_DESC, MARK_POSITION               ; 1950
                                       50  E8  AA  D0 007F2      MOVL    DISPLAY_BLOCK, R0                      ; 1951
                      3F     014A      C0  05  E1 007F6          BBC     #5, 330(R0), 87$                       ;
                                       52  01  D0 007FC          MOVL    #1, J                                  ; 1954
                                           6A  B5 007FF 84$:     TSTW    LINE_DESC                              ; 1957
                                           09  13 00801          BEQL    85$                                    ;
                                    0000'  CF  9F 00803          PUSHAB  P.AGQ                                  ;
                                           7E  D4 00807          CLRL    -(SP)                                  ;
                      6B                   02  FB 00809          CALLS   #2, DIR$APPEND                         ;
                                           6A  B5 0080C 85$:     TSTW    LINE_DESC                              ; 1958
                                           09  12 0080E          BNEQ    86$                                    ;
                                    0000'  CF  9F 00810          PUSHAB  P.AGS                                  ;
                                           7E  D4 00814          CLRL    -(SP)                                  ;
                      6B                   02  FB 00816          CALLS   #2, DIR$APPEND                         ;
                                00000000G  8F  DD 00819 86$:     PUSHL   #DIR$_FILATRDIR                        ; 1959
                      6B                   01  FB 0081F          CALLS   #1, DIR$APPEND                         ;
 07E0    CA           6A               10  00  ED 00822          CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH      ; 1960
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                                             10  15 00829       BLEQ     87$                                   ;
                               6A            57  B0 0082B       MOVW     MARK_POSITION, LINE_DESC              ; 1963
                                             5A  DD 0082E       PUSHL    R10                                   ; 1964
                                             7E  D4 00830       CLRL     -(SP)                                 ;
                         0000G CF            02  FB 00832       CALLS    #2, DIR$OUTPUT                        ;
                   C4          52            02  F3 00837       AOBLEQ   #2, J, 84$                            ; 1954
                               57            6A  3C 0083B 87$:  MOVZWL   LINE_DESC, MARK_POSITION              ; 1969
                               50         E8 AA  D0 0083E       MOVL     DISPLAY_BLOCK, R0                     ; 1970
                   3F    014A  C0            06  E1 00842       BBC      #6, 330(R0), 91$                      ;
                               52            01  D0 00848       MOVL     #1, J                                 ; 1973
                                             6A  B5 0084B 88$:  TSTW     LINE_DESC                             ; 1976
                                             09  13 0084D       BEQL     89$                                   ;
                                       0000' CF  9F 0084F       PUSHAB   P.AGU                                 ;
                                             7E  D4 00853       CLRL     -(SP)                                 ;
                               6B            02  FB 00855       CALLS    #2, DIR$APPEND                        ;
                                             6A  B5 00858 89$:  TSTW     LINE_DESC                             ; 1977
                                             09  12 0085A       BNEQ     90$                                   ;
                                       0000' CF  9F 0085C       PUSHAB   P.AGW                                 ;
                                             7E  D4 00860       CLRL     -(SP)                                 ;
                               6B            02  FB 00862       CALLS    #2, DIR$APPEND                        ;
                                   00000000G 8F  DD 00865 90$:  PUSHL    #DIR$_FILATRBADBLK                    ; 1978
                               6B            01  FB 0086B       CALLS    #1, DIR$APPEND                        ;
  07E0   CA        6A          10            00  ED 0086E       CMPZV    #0, #16, LINE_DESC, DISPLAY_WIDTH     ; 1979
                                             10  15 00875       BLEQ     91$                                   ;
                               6A            57  B0 00877       MOVW     MARK_POSITION, LINE_DESC              ; 1982
                                             5A  DD 0087A       PUSHL    R10                                   ; 1983
                                             7E  D4 0087C       CLRL     -(SP)                                 ;
                         0000G CF            02  FB 0087E       CALLS    #2, DIR$OUTPUT                        ;
                   C4          52            02  F3 00883       AOBLEQ   #2, J, 88$                            ; 1973
                               57            6A  3C 00887 91$:  MOVZWL   LINE_DESC, MARK_POSITION              ; 1988
                               50         E8 AA  D0 0088A       MOVL     DISPLAY_BLOCK, R0                     ; 1989
                               3F       014B C0  E9 0088E       BLBC     331(R0), 95$                          ;
                               52            01  D0 00893       MOVL     #1, J                                 ; 1992
                                             6A  B5 00896 92$:  TSTW     LINE_DESC                             ; 1995
                                             09  13 00898       BEQL     93$                                   ;
                                       0000' CF  9F 0089A       PUSHAB   P.AGY                                 ;
                                             7E  D4 0089E       CLRL     -(SP)                                 ;
                               6B            02  FB 008A0       CALLS    #2, DIR$APPEND                        ;
                                             6A  B5 008A3 93$:  TSTW     LINE_DESC                             ; 1996
                                             09  12 008A5       BNEQ     94$                                   ;
                                       0000' CF  9F 008A7       PUSHAB   P.AHA                                 ;
                                             7E  D4 008AB       CLRL     -(SP)                                 ;
                               6B            02  FB 008AD       CALLS    #2, DIR$APPEND                        ;
                                   00000000G 8F  DD 008B0 94$:  PUSHL    #DIR$_FILATRNOCHRG                    ; 1997
                               6B            01  FB 008B6       CALLS    #1, DIR$APPEND                        ;
  07E0   CA        6A          10            00  ED 008B9       CMPZV    #0, #16, LINE_DESC, DISPLAY_WIDTH     ; 1998
                                             10  15 008C0       BLEQ     95$                                   ;
                               6A            57  B0 008C2       MOVW     MARK_POSITION, LINE_DESC              ; 2001
                                             5A  DD 008C5       PUSHL    R10                                   ; 2002
                                             7E  D4 008C7       CLRL     -(SP)                                 ;
                         0000G CF            02  FB 008C9       CALLS    #2, DIR$OUTPUT                        ;
                   C4          52            02  F3 008CE       AOBLEQ   #2, J, 92$                            ; 1992
                               57            6A  3C 008D2 95$:  MOVZWL   LINE_DESC, MARK_POSITION              ; 2007
                               50         E8 AA  D0 008D5       MOVL     DISPLAY_BLOCK, R0                     ; 2008
                   3F    014B  C0            01  E1 008D9       BBC      #1, 331(R0), 99$                      ;
                               52            01  D0 008DF       MOVL     #1, J                                 ; 2011
                                             6A  B5 008E2 96$:  TSTW     LINE_DESC                             ; 2014
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                                                     09 13 008E4         BEQL    97$                                     ;
                                               0000' CF 9F 008E6         PUSHAB  P.AHC                                   ;
                                                     7E D4 008EA         CLRL    -(SP)                                   ;
                                        6B           02 FB 008EC         CALLS   #2, DIR$APPEND                          ;
                                                     6A B5 008EF 97$:    TSTW    LINE_DESC                               ; 2015
                                                     09 12 008F1         BNEQ    98$                                     ;
                                               0000' CF 9F 008F3         PUSHAB  P.AHE                                   ;
                                                     7E D4 008F7         CLRL    -(SP)                                   ;
                                        6B           02 FB 008F9         CALLS   #2, DIR$APPEND                          ;
                                           00000000G 8F DD 008FC 98$:    PUSHL   #DIR$_FILATRERASE                       ; 2016
                                        6B           01 FB 00902         CALLS   #1, DIR$APPEND                          ;
07E0    CA              6A              10           00 ED 00905         CMPZV   #0, #16, LINE_DESC, DISPLAY_WIDTH       ; 2017
                                                     10 15 0090C         BLEQ    99$                                     ;
                                        6A           57 B0 0090E         MOVW    MARK_POSITION, LINE_DESC                ; 2020
                                                     5A DD 00911         PUSHL   R10                                     ; 2021
                                                     7E D4 00913         CLRL    -(SP)                                   ;
                                 0000G  CF           02 FB 00915         CALLS   #2, DIR$OUTPUT                          ;
                        C4              52           02 F3 0091A         AOBLEQ  #2, J, 96$                              ; 2011
                                                     6A B5 0091E 99$:    TSTW    LINE_DESC                               ; 2026
                                                     09 13 00920         BEQL    100$                                    ;
                                                     5A DD 00922         PUSHL   R10                                     ;
                                                     7E D4 00924         CLRL    -(SP)                                   ;
                                 0000G  CF           02 FB 00926         CALLS   #2, DIR$OUTPUT                          ;
                                           00000000G 8F DD 0092B 100$:   PUSHL   #DIR$_RECFORMAT                         ; 2028
                                        6B           01 FB 00931         CALLS   #1, DIR$APPEND                          ;
                                        52        E8 AA D0 00934         MOVL    DISPLAY_BLOCK, R2                       ; 2029
        53        0129  C2              04           00 EF 00938         EXTZV   #0, #4, 297(R2), R3                     ;
                                        01           53 D1 0093F         CMPL    R3, #1                                  ; 2030
                                                     11 12 00942         BNEQ    101$                                    ;
                                        7E      012B C2 3C 00944         MOVZWL  299(R2), -(SP)                          ;
                                               0000' CF 9F 00949         PUSHAB  P.AHG                                   ;
                                           00000000G 8F DD 0094D         PUSHL   #DIR$_RECFMTFIX                         ;
                                                     65 11 00953         BRB     109$                                    ;
                                        02           53 D1 00955 101$:   CMPL    R3, #2                                  ; 2031
                                                     08 12 00958         BNEQ    102$                                    ;
                                           00000000G 8F DD 0095A         PUSHL   #DIR$_RECFMTVAR                         ;
                                                     47 11 00960         BRB     107$                                    ;
                                        03           53 D1 00962 102$:   CMPL    R3, #3                                  ; 2032
                                                     11 12 00965         BNEQ    103$                                    ;
                                        7E      0138 C2 9A 00967         MOVZBL  312(R2), -(SP)                          ;
                                               0000' CF 9F 0096C         PUSHAB  P.AHI                                   ;
                                           00000000G 8F DD 00970         PUSHL   #DIR$_RECFMTVFC                         ;
                                                     42 11 00976         BRB     109$                                    ;
                                                     53 D5 00978 103$:   TSTL    R3                                      ; 2033
                                                     08 12 0097A         BNEQ    104$                                    ;
                                           00000000G 8F DD 0097C         PUSHL   #DIR$_RECFMTUDF                         ;
                                                     25 11 00982         BRB     107$                                    ;
                                        04           53 D1 00984 104$:   CMPL    R3, #4                                  ; 2034
                                                     08 12 00987         BNEQ    105$                                    ;
                                           00000000G 8F DD 00989         PUSHL   #DIR$_RECFMTSTM                         ;
                                                     18 11 0098F         BRB     107$                                    ;
                                        05           53 D1 00991 105$:   CMPL    R3, #5                                  ; 2035
                                                     08 12 00994         BNEQ    106$                                    ;
                                           00000000G 8F DD 00996         PUSHL   #DIR$_RECFMTSTMLF                       ;
                                                     0B 11 0099C         BRB     107$                                    ;
                                        06           53 D1 0099E 106$:   CMPL    R3, #6                                  ; 2036
                                                     0B 12 009A1         BNEQ    108$                                    ;
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                         00000000G  8F  DD 009A3         PUSHL   #DIR$_RECFMTSTMCR                            ;
                          6B        01  FB 009A9 107$:   CALLS   #1, DIR$APPEND                               ;
                                    0F  11 009AC         BRB     110$                                         ;
                                    53  DD 009AE 108$:   PUSHL   R3                                           ; 2037
                             0000'  CF  9F 009B0         PUSHAB  P.AHK                                        ;
                         00000000G  8F  DD 009B4         PUSHL   #DIR$_RECFMTUNK                              ;
                          6B        03  FB 009BA 109$:   CALLS   #3, DIR$APPEND                               ;
                          50    E8  AA  D0 009BD 110$:   MOVL    DISPLAY_BLOCK, R0                            ; 2039
 01      0129    C0       04        00  ED 009C1         CMPZV   #0, #4, 297(R0), #1                          ;
                                    18  13 009C8         BEQL    111$                                         ;
                              012B  C0  B5 009CA         TSTW    299(R0)                                      ; 2040
                                    12  13 009CE         BEQL    111$                                         ;
                          7E  012B  C0  3C 009D0         MOVZWL  299(R0), -(SP)                               ; 2041
                             0000'  CF  9F 009D5         PUSHAB  P.AHM                                        ;
                         00000000G  8F  DD 009D9         PUSHL   #DIR$_MAXRECSIZ                              ;
                          6B        03  FB 009DF         CALLS   #3, DIR$APPEND                               ;
                                    5A  DD 009E2 111$:   PUSHL   R10                                          ; 2042
                                    7E  D4 009E4         CLRL    -(SP)                                        ;
                    0000G  CF       02  FB 009E6         CALLS   #2, DIR$OUTPUT                               ;
                         00000000G  8F  DD 009EB         PUSHL   #DIR$_RECATTR                                ; 2044
                          6B        01  FB 009F1         CALLS   #1, DIR$APPEND                               ;
                          50    E8  AA  D0 009F4         MOVL    DISPLAY_BLOCK, R0                            ; 2045
                          52  012A  C0  9E 009F8         MOVAB   298(R0), R2                                  ;
                                    62  95 009FD         TSTB    (R2)                                         ;
                                    08  12 009FF         BNEQ    112$                                         ;
                         00000000G  8F  DD 00A01         PUSHL   #DIR$_NORECATTR                              ; 2046
                                    4F  11 00A07         BRB     118$                                         ;
                          57        6A  3C 00A09 112$:   MOVZWL  LINE_DESC, MARK_POSITION                     ; 2049
                 08       62        01  E1 00A0C         BBC     #1, (R2), 113$                               ; 2050
                         00000000G  8F  DD 00A10         PUSHL   #DIR$_CRCARCTL                               ; 2051
                                    1D  11 00A16         BRB     116$                                         ;
                 08                 62  E9 00A18 113$:   BLBC    (R2), 114$                                   ; 2052
                         00000000G  8F  DD 00A1B         PUSHL   #DIR$_FTNCARCTL                              ; 2053
                                    12  11 0CA21         BRB     116$                                         ;
                 08       62        02  E1 00A23 114$:   BBC     #2, (R2), 115$                               ; 2054
                         00000000G  8F  DD 00A27         PUSHL   #DIR$_PRICARCTL                              ; 2055
                                    06  11 00A2D         BRB     116$                                         ;
                         00000000G  8F  DD 00A2F 115$:   PUSHL   #DIR$_NOCARCTL                               ; 2056
                          6B        01  FB 00A35 116$:   CALLS   #1, DIR$APPEND                               ;
                          50    E8  AA  D0 00A38         MOVL    DISPLAY_BLOCK, R0                            ; 2057
                 19     012A  C0    03  E1 00A3C         BBC     #3, 298(R0), 119$                            ;
 57              6A       10        00  ED 00A42         CMPZV   #0, #16, LINE_DESC, MARK_POSITION            ; 2060
                                    09  13 00A47         BEQL    117$                                         ;
                             0000'  CF  9F 00A49         PUSHAB  P.AHO                                        ;
                                    7E  D4 00A4D         CLRL    -(SP)                                        ;
                          6B        02  FB 00A4F         CALLS   #2, DIR$APPEND                               ;
                         00000000G  8F  DD 00A52 117$:   PUSHL   #DIR$_NOSPAN                                 ; 2061
                          6B        01  FB 00A58 118$:   CALLS   #1, DIR$APPEND                               ;
                                    5A  DD 00A5B 119$:   PUSHL   R10                                          ; 2064
                                    7E  D4 00A5D         CLRL    -(SP)                                        ;
                    0000G  CF       02  FB 00A5F         CALLS   #2, DIR$OUTPUT                               ;
                          03 0000'  CF  E8 00A64         BLBS    JOURNAL_FLAG, 120$                           ; 2066
                                  0127  31 00A69         BRW     134$                                         ;
                         00000000G  8F  DD 00A6C 120$:   PUSHL   #DIR$_JNLENABLED                             ; 2069
                          6B        01  FB 00A72         CALLS   #1, DIR$APPEND                               ;
                          50    E8  AA  D0 00A75         MOVL    DISPLAY_BLOCK, R0                            ; 2070
                          52  0154  C0  9E 00A79         MOVAB   340(R0), R2                                  ;
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                                      62  B5 00A7E         TSTW    (R2)                                ;
                                      0B  12 00A80         BNEQ    121$                                ;
                       00000000G      8F  DD 00A82         PUSHL   #DIR$_NOJNLENB                      ; 2071
                  6B                  01  FB 00A88         CALLS   #1, DIR$APPEND                      ;
                                      6D  11 00A8B         BRB     128$                                ;
       09         62                  03  E1 00A8D 121$:   BBC     #3, (R2), 122$                      ; 2074
                           0000'      CF  9F 00A91         PUSHAB  P.AHQ                               ;
                                      7E  D4 00A95         CLRL    -(SP)                               ;
                  6B                  02  FB 00A97         CALLS   #2, DIR$APPEND                      ;
                  50          E8      AA  D0 00A9A 122$:   MOVL    DISPLAY_BLOCK, R0                   ; 2075
       09       0154          C0      02  E1 00A9E         BBC     #2, 340(R0), 123$                   ;
                           0000'      CF  9F 00AA4         PUSHAB  P.AHS                               ;
                                      7E  D4 00AA8         CLRL    -(SP)                               ;
                  6B                  02  FB 00AAA         CALLS   #2, DIR$APPEND                      ;
                  50          E8      AA  D0 00AAD 123$:   MOVL    DISPLAY_BLOCK, R0                   ; 2076
       09       0154          C0      04  E1 00AB1         BBC     #4, 340(R0), 124$                   ;
                           0000'      CF  9F 00AB7         PUSHAB  P.AHU                               ;
                                      7E  D4 00ABB         CLRL    -(SP)                               ;
                  6B                  02  FB 00ABD         CALLS   #2, DIR$APPEND                      ;
                  50          E8      AA  D0 00AC0 124$:   MOVL    DISPLAY_BLOCK, R0                   ; 2077
       09       0154          C0      01  E1 00AC4         BBC     #1, 340(R0), 125$                   ;
                           0000'      CF  9F 00ACA         PUSHAB  P.AHW                               ;
                                      7E  D4 00ACE         CLRL    -(SP)                               ;
                  6B                  02  FB 00AD0         CALLS   #2, DIR$APPEND                      ;
                  50          E8      AA  D0 00AD3 125$:   MOVL    DISPLAY_BLOCK, R0                   ; 2078
                  09        0154      C0  E9 00AD7         BLBC    340(R0), 126$                       ;
                           0000'      CF  9F 00ADC         PUSHAB  P.AHY                               ;
                                      7E  D4 00AE0         CLRL    -(SP)                               ;
                  6B                  02  FB 00AE2         CALLS   #2, DIR$APPEND                      ;
                  50          E8      AA  D0 00AE5 126$:   MOVL    DISPLAY_BLOCK, R0                   ; 2079
       09       0154          C0      05  E1 00AE9         BBC     #5, 340(R0), 127$                   ;
                           0000'      CF  9F 00AEF         PUSHAB  P.AIA                               ;
                                      7E  D4 00AF3         CLRL    -(SP)                               ;
                  6B                  02  FB 00AF5         CALLS   #2, DIR$APPEND                      ;
                                      6A  B7 00AF8 127$:   DECW    LINE_DESC                           ; 2080
                                      5A  DD 00AFA 128$:   PUSHL   R10                                 ; 2082
                                      7E  D4 00AFC         CLRL    -(SP)                               ;
                0000G     CF          02  FB 00AFE         CALLS   #2, DIR$OUTPUT                      ;
                          50  E8      AA  D0 00B03         MOVL    DISPLAY_BLOCK, R0                   ; 2083
                            01A9      C0  95 00B07         TSTB    425(R0)                             ;
                                      15  13 00B0B         BEQL    129$                                ;
                            01A9      C0  9F 00B0D         PUSHAB  425(R0)                             ; 2084
                           0000'      CF  9F 00B11         PUSHAB  P.AIC                               ;
                       00000000G      8F  DD 00B15         PUSHL   #DIR$_BIJNLNAME                     ;
                0000G     CF          03  FB 00B1B         CALLS   #3, DIR$OUTPUT                      ;
                                      11  11 00B20         BRB     130$                                ;
       0B       0154      C0          02  E1 00B22 129$:   BBC     #2, 340(R0), 130$                   ; 2085
                       00000000G      8F  DD 00B28         PUSHL   #DIR$_NOBIJNL                       ; 2086
                0000G     CF          01  FB 00B2E         CALLS   #1, DIR$OUTPUT                      ;
                          50  E8      AA  D0 00B33 130$:   MOVL    DISPLAY_BLOCK, R0                   ; 2087
                            0198      C0  95 00B37         TSTB    408(R0)                             ;
                                      15  13 00B3B         BEQL    131$                                ;
                            0198      C0  9F 00B3D         PUSHAB  408(R0)                             ; 2088
                           0000'      CF  9F 00B41         PUSHAB  P.AIE                               ;
                       00000000G      8F  DD 00B45         PUSHL   #DIR$_AIJNLNAME                     ;
                0000G     CF          03  FB 00B4B         CALLS   #3, DIR$OUTPUT                      ;
                                      11  11 00B50         BRB     132$                                ;
```

```
        0B      0154    C0                03  E1 00B52 131$:  BBC     #3, 340(R0), 132$             ; 2089
                                00000000G 8F  DD 00B58        PUSHL   #DIR$_NOAIJNL                 ; 2090
                0000G   CF                01  FB 00B5E        CALLS   #1, DIR$OUTPUT                ;
                        50             E8 AA  D0 00B63 132$:  MOVL    DISPLAY_BLOCK, R0             ; 2091
                                     01BA C0  95 00B67        TSTB    442(R0)                       ;
                                          15  13 00B6B        BEQL    133$                          ;
                                     01BA C0  9F 00B6D        PUSHAB  442(R0)                       ; 2092
                                    0000' CF  9F 00B71        PUSHAB  P.AIG                         ;
                                00000000G 8F  DD 00B75        PUSHL   #DIR$_ATJNLNAME               ;
                0000G   CF                03  FB 00B7B        CALLS   #3, DIR$OUTPUT                ;
                                          11  11 00B80        BRB     134$                          ;
        0B      0154    C0                04  E1 00B82 133$:  BBC     #4, 340(R0), 134$             ; 2093
                                00000000G 8F  DD 00B88        PUSHL   #DIR$_NOATJNL                 ; 2094
                0000G   CF                01  FB 00B8E        CALLS   #1, DIR$OUTPUT                ;
                                00000000G 8F  DD 00B93 134$:  PUSHL   #DIR$_FILEPROT                ; 2097
                        6B                01  FB 00B99        CALLS   #1, DIR$APPEND                ;
                                          52  D4 00B9C        CLRL    J                             ; 2098
                                          08  12 00B9E 135$:  BNEQ    136$                          ; 2103
                                00000000G 8F  DD 00BA0        PUSHL   #DIR$_SYSPROT                 ;
                                          25  11 00BA6        BRB     139$                          ;
                        01                52  D1 00BA8 136$:  CMPL    J, #1                         ; 2104
                                          08  12 00BAB        BNEQ    137$                          ;
                                00000000G 8F  DD 00BAD        PUSHL   #DIR$_OWNPROT                 ;
                                          18  11 00BB3        BRB     139$                          ;
                        02                52  D1 00BB5 137$:  CMPL    J, #2                         ; 2105
                                          08  12 00BB8        BNEQ    138$                          ;
                                00000000G 8F  DD 00BBA        PUSHL   #DIR$_GRPPROT                 ;
                                          0B  11 00BC0        BRB     139$                          ;
                        03                52  D1 00BC2 138$:  CMPL    J, #3                         ; 2106
                                          09  12 00BC5        BNEQ    140$                          ;
                                00000000G 8F  DD 00BC7        PUSHL   #DIR$_WORPROT                 ;
                        6B                01  FB 00BCD 139$:  CALLS   #1, DIR$APPEND                ;
                        50             E8 AA  D0 00BD0 140$:  MOVL    DISPLAY_BLOCK, R0             ; 2108
                        53           0152 C0  9E 00BD4        MOVAB   338(R0), R3                   ;
        51              52                02  78 00BD9        ASHL    #2, J, R1                     ;
50      63              04                51  EF 00BDD        EXTZV   R1, #4, (R3), R0              ;
                                   0000'CF40  DD 00BE2        PUSHL   PROT_TABLE[R0]                ;
                                          7E  D4 00BE7        CLRL    -(SP)                         ;
                        6B                02  FB 00BE9        CALLS   #2, DIR$APPEND                ;
        AE              52                03  F3 00BEC        AOBLEQ  #3, J, 135$                   ; 2098
                                          5A  DD 00BF0        PUSHL   R10                           ; 2110
                                          7E  D4 00BF2        CLRL    -(SP)                         ;
                0000G   CF                02  FB 00BF4        CALLS   #2, DIR$OUTPUT                ;
                                     07F8 CA  D5 00BF9        TSTL    ACL_LENGTH                    ; 2112
                                          07  15 00BFD        BLEQ    141$                          ;
                0000V   CF                00  FB 00BFF        CALLS   #0, DIR$SHOW_ACL              ; 2113
                                          0B  11 00C04        BRB     142$                          ;
                                00000000G 8F  DD 00C06 141$:  PUSHL   #DIR$_NOFILEACL               ; 2114
                0000G   CF                01  FB 00C0C        CALLS   #1, DIR$OUTPUT                ;
                        50                01  D0 00C11 142$:  MOVL    #1, R0                        ; 2116
                                              04 00C14        RET                                   ; 2118

; Routine Size:  3093 bytes,    Routine Base:  $CODE$ + 0BE4
```

```
1 ROUTINE DIR$SHOW_ACL =
1
1 !++
1 !
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       This routine is called to display the file's ACL.  The output
1 !       format differs depending on whether or not a full directory
1 !       listing is required.
1 !
1 ! CALLING SEQUENCE:
1 !       DIR$SHOW_ACL ()
1 !
1 ! INPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT INPUTS:
1 !       none
1 !
1 ! OUTPUT PARAMETERS:
1 !       none
1 !
1 ! IMPLICIT OUTPUTS:
1 !       none
1 !
1 ! ROUTINE VALUE:
1 !       1
1 !
1 ! SIDE EFFECTS:
1 !       none
1 !
1 !--
1
2 BEGIN
2
2 LOCAL
2       ACL_BUFFER      : REF $BBLOCK,  ! Address of ACL storage
2       ACE_POINTER     : REF $BBLOCK,  ! Pointer to binary ACE
2       ACE_BINDESC     : $BBLOCK [8],  ! Descriptor to binary ACE
2       ACE_TXTDESC     : $BBLOCK [8],  ! Descriptor to converted ACE
2       ACE_TEXT        : $BBLOCK [3072],       ! Converted ACE text storage
2       ACL_FIBDESC     : $BBLOCK [8],  ! FIB descriptor
2       ACL_FIB         : $BBLOCK [FIB$C_LENGTH],       ! File FIB
2       ATR_DESC        : $BBLOCK [12], ! Attribute descriptor
2       STATUS,                         ! Routine exit status
2       IOSB            : VECTOR [4, WORD];     ! I/O status block
2
2 EXTERNAL ROUTINE
2       DIR$OUTPUT;                             ! General output routine
2
2 IF .DISPLAY_BLOCK[DIR_B_NODE] EQL 0
2 THEN
3     BEGIN
3
3 ! Allocate a block of storage for the file's ACL.
3
3     STATUS = LIB$GET_VM (%REF (512), ACL_BUFFER);
```

```
  3         IF NOT .STATUS
  3         THEN
  4             BEGIN
  4             SIGNAL (.STATUS);
  4             RETURN .STATUS;
  3             END;
  3
  3     ! Set up the FIB to read the ACL.
  3
  3         CH$FILL (0, FIB$C_LENGTH, ACL_FIB);
  3         ACL_FIBDESC[DSC$W_LENGTH] = FIB$C_LENGTH;
  3         ACL_FIBDESC[DSC$A_POINTER] = ACL_FIB;
  3         ACL_FIB[FIB$W_FID_NUM] = .DISPLAY_BLOCK[DIR_W_FID_NUM];
  3         ACL_FIB[FIB$W_FID_SEQ] = .DISPLAY_BLOCK[DIR_W_FID_SEQ];
  3         ACL_FIB[FIB$W_FID_RVN] = .DISPLAY_BLOCK[DIR_W_FID_RVN];
  3         WHILE 1
  3         DO
  4             BEGIN
  4             CH$FILL (0, .ACL_LENGTH, .ACL_BUFFER);
  4             ATR_DESC[ATR$W_SIZE] = 512;
  4             ATR_DESC[ATR$W_TYPE] = ATR$C_READACL;
  4             ATR_DESC[ATR$L_ADDR] = .ACL_BUFFER;
  4             ATR_DESC[8,0,32,0] = 0;
  4
P 4             STATUS = $QIOW (CHAN = .CHANNEL,
P 4                             FUNC = IO$_ACCESS,
P 4                             IOSB = IOSB,
P 4                             P1 = ACL_FIBDESC,
  4                             P5 = ATR_DESC);
  4             IF .STATUS THEN STATUS = .IOSB[0];
  4             IF .STATUS THEN STATUS = .ACL_FIB[FIB$L_ACL_STATUS];
  4             IF NOT .STATUS THEN EXITLOOP;
  4             ACE_POINTER = .ACL_BUFFER;
  4             CH$FILL (0, 8, ACE_BINDESC);
  4             CH$FILL (0, 8, ACE_TXTDESC);
  4             UNTIL .ACE_POINTER[ACE$B_SIZE] EQL 0
  4                 OR .ACE_POINTER GEQA ACL_BUFFER + .ACL_LENGTH
  4             DO
  5                 BEGIN
  5                 IF NOT .ACE_POINTER[ACE$V_HIDDEN]
  5                 THEN
  6                     BEGIN
  6                     ACE_BINDESC[DSC$W_LENGTH] = .ACE_POINTER[ACE$B_SIZE];
  6                     ACE_BINDESC[DSC$A_POINTER] = .ACE_POINTER;
  6                     ACE_TXTDESC[DSC$W_LENGTH] = 3072;
  6                     ACE_TXTDESC[DSC$A_POINTER] = ACE_TEXT;
P 6                     STATUS = $FORMAT_ACL (ACLENT = ACE_BINDESC,
P 6                                           ACLLEN = ACE_TXTDESC[DSC$W_LENGTH],
P 6                                           ACLSTR = ACE_TXTDESC,
P 6                                           WIDTH = DISPLAY_WIDTH,
P 6                                           TRMDSC = $DESCRIPTOR (%CHAR (13), %CHAR(10)),
P 6                                           INDENT = %REF (IF .QUAL_FLAGS[DIR_V_QUAL_FULL]
  6                                                          THEN 20 ELSE 10));
  6                     IF NOT .STATUS
  6                     THEN
  7                         BEGIN
  7                         SIGNAL (.STATUS);
```

```
; 1839          2233 7                      RETURN .STATUS;
; 1840          2234 6                      END;
; 1841          2235 6                  IF .ACE_POINTER EQL .ACL_BUFFER AND .QUAL_FLAGS[DIR_V_QUAL_FULL]
; 1842          2236 6                  THEN
; 1843          2237 7                      BEGIN
; 1844        P 2238 7                      $GETMSG (MSGID = DIR$_FILEACL,
; 1845        P 2239 7                               MSGLEN = %REF (0),           ! Length is a throw-away
; 1846        P 2240 7                               BUFADR = ACE_TXTDESC,
; 1847          2241 7                               FLAGS = 1);
; 1848          2242 6                      END;
; 1849          2243 6                  WRITE (0, '!AS', ACE_TXTDESC);
; 1850          2244 5                  END;
; 1851          2245 5              ACE_POINTER = .ACE_POINTER + .ACE_POINTER[ACE$B_SIZE];
; 1852          2246 4              END;
; 1853          2247 3          END;
; 1854          2248 2      END;
; 1855          2249 2
; 1856          2250 2  RETURN 1;
; 1857          2251 2
; 1858          2252 1  END;                                     ! End of routine DIR$SHOW_ACL;


                                                                           .PSECT  $PLIT$,NOWRT,NOEXE,2

                                                        0D  00584 P.AIJ:   .ASCII  <13>                                          ;
                                                        0A  00585          .ASCII  <10>                                          ;
                                                            00586          .BLKB   2
                                                  00000002  00588 P.AII:   .LONG   2                                             ;
                                                  00000000' 0058C          .ADDRESS P.AIJ                                        ;
                                                  53  41  21  00590 P.AIL: .ASCII  \!AS\                                         ;
                                                            00593          .BLKB   1
                                                  00000003  00594 P.AIK:   .LONG   3                                             ;
                                                  00000000' 00598          .ADDRESS P.AIL                                        ;

                                                                           .EXTRN  LIB$SIGNAL, SYS$FLUSH
                                                                           .EXTRN  SYS$WAIT, SYS$FORMAT_ACL

                                                                           .PSECT  $CODE$,NOWRT,2

                                                      OFFC 00000 DIR$SHOW_ACL:
                                                                           .WORD   Save R2,R3,R4,R5,R6,R7,R8,R9,R10,R11          ; 2119
                                        5B 00000000G  00  9E 00002         MOVAB   LIB$SIGNAL, R11                               ;
                                        5A 00000000G  00  9E 00009         MOVAB   SYS$WAIT, R10                                 ;
                                        59 00000000G  00  9E 00010         MOVAB   SYS$FLUSH, R9                                 ;
                                        58 00000000'  EF  9E 00017         MOVAB   OUTPUT_RAB, R8                                ;
                                        5E       F38C CE  9E 0001E         MOVAB   -3188(SP), SP                                 ;
                                        50       F7EC C8  D0 00023         MOVL    DISPLAY_BLOCK, R0                             ; 2169
                                                 0119 C0  95 00028         TSTB    281(R0)                                       ;
                                                   03 13     0002C         BEQL    1$                                            ;
                                                 0190 31     0002E         BRW     17$                                           ;
                                                   04 AE  9F 00031 1$:     PUSHAB  ACL_BUFFER                                    ; 2175
                                   04   AE       0200 8F  3C 00034         MOVZWL  #512, 4(SP)                                   ;
                                                   04 AE  9F 0003A         PUSHAB  4(SP)                                         ;
                            00000000G   00         02 FB     0003D         CALLS   #2, LIB$GET_VM                                ;
                                        57         50 D0     00044         MOVL    R0, STATUS                                    ;
                                        28         57 E8     00047         BLBS    STATUS, 4$                                    ; 2176
```

```
                                                              58  DD 0004A         PUSHL   R8                                               ; 2179
                                                69            01  FB 0004C         CALLS   #1, SYS$FLUSH                                    ;
                                                              58  DD 0004F         PUSHL   R8                                               ;
                                                6A            01  FB 00051         CALLS   #1, SYS$WAIT                                     ;
                                                              57  DD 00054         PUSHL   STATUS                                           ;
                                                6B            01  FB 00056         CALLS   #1, LIB$SIGNAL                                   ;
                                                07            57  93 00059         BITB    STATUS, #7                                       ;
                                                              03  12 0005C         BNEQ    3$                                               ;
                                                            0120  31 0005E 2$:     BRW     13$                                              ;
            50              57                  03            00  EF 00061 3$:     EXTZV   #0, #3, STATUS, R0                               ;
            50        F7E4  C8                  03            00  ED 00066         CMPZV   #0, #3, WORST_ERROR, R0                          ;
                                                              EF  18 0006D         BGEQ    2$                                               ;
                                                            0105  31 0006F         BRW     12$                                              ;
    0040    8F              00                  6E            00  2C 00072 4$:     MOVC5   #0, (SP), #0, #64, ACL_FIB                       ; 2185
                                                        1C    AE     00079                                                                  ;
                                          5C    AE      40    8F  9B 0007B         MOVZBW  #64, ACL_FIBDESC                                 ; 2186
                                          60    AE      1C    AE  9E 00080         MOVAB   ACL_FIB, ACL_FIBDESC+4                           ; 2187
                                                50    F7EC    C8  D0 00085         MOVL    DISPLAY_BLOCK, R0                                ; 2188
                                          20    AE    0123    C0  D0 0008A         MOVL    291(R0), ACL_FIB+4                               ;
                                          24    AE    0127    C0  B0 00090         MOVW    295(R0), ACL_FIB+8                               ; 2190
      FC    A8              00                  6E            00  2C 00096 5$:     MOVC5   #0, (SP), #0, ACL_LENGTH, @ACL_BUFFER            ; 2194
                                                        04    BE     0009C                                                                  ;
                                          10    AE 00250200   8F  D0 0009E         MOVL    #2425344, ATR_DESC                               ; 2195
                                          14    AE      04    AE  D0 000A6         MOVL    ACL_BUFFER, ATR_DESC+4                           ; 2197
                                                        18    AE  D4 000AB         CLRL    ATR_DESC+8                                       ; 2198
                                                              7E  D4 000AE         CLRL    -(SP)                                            ; 2204
                                                        14    AE  9F 000B0         PUSHAB  ATR_DESC                                         ;
                                                              7E  7C 000B3         CLRQ    -(SP)                                            ;
                                                              7E  D4 000B5         CLRL    -(SP)                                            ;
                                                        70    AE  9F 000B7         PUSHAB  ACL_FIBDESC                                      ;
                                                              7E  7C 000BA         CLRQ    -(SP)                                            ;
                                                        28    AE  9F 000BC         PUSHAB  IOSB                                             ;
                                                              32  DD 000BF         PUSHL   #50                                              ;
                                                      F7F0    C8  DD 000C1         PUSHL   CHANNEL                                          ;
                                                              7E  D4 000C5         CLRL    -(SP)                                            ;
                                   00000000G    00            0C  FB 000C7         CALLS   #12, SYS$QIOW                                    ;
                                                57            50  D0 000CE         MOVL    R0, STATUS                                       ;
                                                0B            57  E9 000D1         BLBC    STATUS, 6$                                       ; 2205
                                                57      08    AE  3C 000D4         MOVZWL  IOSB, STATUS                                     ;
                                                04            57  E9 000D8         BLBC    STATUS, 6$                                       ; 2206
                                                57      50    AE  D0 000DB         MOVL    ACL_FIB+52, STATUS                               ;
                                                03            57  E8 000DF 6$:     BLBS    STATUS, 7$                                       ; 2207
                                                            00DC  31 000E2         BRW     17$                                              ;
                                                56      04    AE  D0 000E5 7$:     MOVL    ACL_BUFFER, ACE_POINTER                          ; 2208
            08              00                  6E            00  2C 000E9         MOVC5   #0, (SP), #0, #8, ACE_BINDESC                    ; 2209
                                                        F8    AD     000EE                                                                  ;
            08              00                  6E            00  2C 000F0         MOVC5   #0, (SP), #0, #8, ACE_TXTDESC                    ; 2210
                                                        F0    AD     000F5                                                                  ;
                                                              66  95 000F7 8$:     TSTB    (ACE_POINTER)                                    ; 2211
                                                              9B  13 000F9         BEQL    5$                                               ;
                                                50      04    AE  9E 000FB         MOVAB   ACL_BUFFER, R0                                   ; 2212
                                                50      FC    A8  C0 000FF         ADDL2   ACL_LENGTH, R0                                   ;
                                                50            56  D1 00103         CMPL    ACE_POINTER, R0                                  ;
                                                              8E  1E 00106         BGEQU   5$                                               ;
                            03            03    A6            02  E1 00108         BBC     #2, 3(ACE_POINTER), 9$                           ; 2215
                                                            00A8  31 0010D         BRW     16$                                              ;
                                          F8    AD            66  9B 00110 9$:     MOVZBW  (ACE_POINTER), ACE_BINDESC                       ; 2218
```

```
EXE



Mod
---
LBR
DIS
CHK
CHN
LEF
REB
ERA
CHK
GET
SYS
LIB
SYS
LIB
```

```
                        FC      AD                56  D0 00114          MOVL     ACE_POINTER, ACE_BINDESC+4                    ; 2219
                        F0      AD        0C00    8F  B0 00118          MOVW     #3072, ACE_TXTDESC                            ; 2220
                        F4      AD          64    AE  9E 0011E          MOVAB    ACE_TEXT, ACE_TXTDESC+4                       ; 2221
                                                  7E  D4 00123          CLRL     -(SP)                                         ; 2228
             06       F7D1      C8                01  E1 00125          BBC      #1, QUAL_FLAGS+1, 10$                         ;
                        04      AE                14  D0 0012B          MOVL     #20, 4(SP)                                    ;
                                                  04  11 0012F          BRB      11$                                           ;
                        04      AE                0A  D0 00131  10$:    MOVL     #10, 4(SP)                                    ;
                                            04    AE  9F 00135  11$:    PUSHAB   4(SP)                                         ;
                                         0000'    CF  9F 00138          PUSHAB   P.AII                                         ;
                                            E4    A8  9F 0013C          PUSHAB   DISPLAY_WIDTH                                 ;
                                            F0    AD  9F 0013F          PUSHAB   ACE_TXTDESC                                   ;
                                            F0    AD  9F 00142          PUSHAB   ACE_TXTDESC                                   ;
                                            F8    AD  9F 00145          PUSHAB   ACE_BINDESC                                   ;
                  00000000G     00                07  FB 00148          CALLS    #7, SYS$FORMAT_ACL                            ;
                                57                50  D0 0014F          MOVL     R0, STATUS                                    ;
                                30                57  E8 00152          BLBS     STATUS, 14$                                   ; 2229
                                                  58  DD 00155          PUSHL    R8                                            ; 2232
                                69                01  FB 00157          CALLS    #1, SYS$FLUSH                                 ;
                                                  58  DD 0015A          PUSHL    R8                                            ;
                                6A                01  FB 0015C          CALLS    #1, SYS$WAIT                                  ;
                                                  57  DD 0015F          PUSHL    STATUS                                        ;
                                6B                01  FB 00161          CALLS    #1, LIB$SIGNAL                                ;
                                07                57  93 00164          BITB     STATUS, #7                                    ;
                                                  18  13 00167          BEQL     13$                                           ;
     50              57         03                00  EF 00169          EXTZV    #0, #3, STATUS, R0                            ;
     50       F7E4   C8         03                00  ED 0016E          CMPZV    #0, #3, WORST_ERROR, R0                       ;
                                                  0A  18 00175          BGEQ     13$                                           ;
              F7E4   C8         57 10000000       8F  C9 00177  12$:    BISL3    #268435456, STATUS, WORST_ERROR               ;
                                50                57  D0 00181  13$:    MOVL     STATUS, R0                                    ; 2233
                                                      04 00184          RET                                                    ;
                        04      AE                56  D1 00185  14$:    CMPL     ACE_POINTER, ACL_BUFFER                       ; 2235
                                                  1F  12 00189          BNEQ     15$                                           ;
             19       F7D1      C8                01  E1 0018B          BBC      #1, QUAL_FLAGS+1, 15$                         ;
                                7E                01  7D 00191          MOVQ     #1, -(SP)                                     ; 2241
                                            F0    AD  9F 00194          PUSHAB   ACE_TXTDESC                                   ;
                                            0C    AE  D4 00197          CLRL     12(SP)                                        ;
                                            0C    AE  9F 0019A          PUSHAB   12(SP)                                        ;
                                     00000000G    8F  DD 0019D          PUSHL    #DIR$_FILEACL                                 ;
                  00000000G     00                05  FB 001A3          CALLS    #5, SYS$GETMSG                                ;
                                            F0    AD  9F 001AA  15$:    PUSHAB   ACE_TXTDESC                                   ; 2243
                                         0000'    CF  9F 001AD          PUSHAB   P.AIK                                         ;
                                                  7E  D4 001B1          CLRL     -(SP)                                         ;
                      0000G     CF                03  FB 001B3          CALLS    #3, DIR$OUTPUT                                ;
                                50                66  9A 001B8  16$:    MOVZBL   (ACE_POINTER), R0                             ; 2245
                                56                50  C0 001BB          ADDL2    R0, ACE_POINTER                               ;
                                                FF36  31 001BE          BRW      8$                                            ; 2211
                                50                01  D0 001C1  17$:    MOVL     #1, R0                                        ; 2250
                                                      04 001C4          RET                                                    ; 2252

; Routine Size:  453 bytes,    Routine Base:  $CODE$ + 17F9
```

```
     1 GLOBAL ROUTINE DIR$TOTAL =
     1
     1 !++
     1 !
     1 ! FUNCTIONAL DESCRIPTION:
     1 !       Display the per directory total
     1 !
     1 ! CALLING SEQUENCE:
     1 !       DIR$TOTAL ()
     1 !
     1 ! INPUT PARAMETERS:
     1 !       none
     1 !
     1 ! IMPLICIT INPUTS:
     1 !       none
     1 ! OUTPUT PARAMETERS:
     1 !       none
     1 !
     1 ! IMPLICIT OUTPUTS:
     1 !       none
     1 !
     1 ! ROUTINE VALUE:
     1 !       1
     1 !
     1 ! SIDE EFFECTS:
     1 !       none
     1 !
     1 !--
     1
     2 BEGIN
     2
     2 EXTERNAL ROUTINE
     2         DIR$OUTPUT;                                    ! General output routine
     2
     2 IF NOT .QUAL_FLAGS[DIR_V_QUAL_GRAN]
     2 AND .QUAL_FLAGS[DIR_V_QUAL_TRAI]
     2 THEN
     3     BEGIN
     3     WRITE (0, '');
     3     IF .QUAL_FLAGS[DIR_V_QUAL_SIZE] OR .QUAL_FLAGS[DIR_V_QUAL_FULL]
     3     THEN
     4         BEGIN
     4         IF .QUAL_FLAGS[DIR_V_SIZE_ALL] OR .QUAL_FLAGS[DIR_V_QUAL_FULL]
     4         THEN WRITE (DIR$_TOTSIZALL, 0, .TOTAL_FILES, .TOTAL_USED, .TOTAL_ALLOC)
P    4         ELSE WRITE (DIR$_TOTSIZ, 0, .TOTAL_FILES, (IF .QUAL_FLAGS[DIR_V_SIZE_USED]
     4                                                     THEN .TOTAL_USED ELSE .TOTAL_ALLOC));
     4         END
     3     ELSE WRITE (DIR$_TOTNOSIZ, 0, .TOTAL_FILES);
     2     END;
     2 GRAND_USED = .GRAND_USED + .TOTAL_USED;
     2 GRAND_ALLOC = .GRAND_ALLOC + .TOTAL_ALLOC;
     2 GRAND_FILES = .GRAND_FILES + .TOTAL_FILES;
     2 GRAND_DIRS = .GRAND_DIRS + 1;
     2 TOTAL_USED = TOTAL_ALLOC = TOTAL_FILES = 0;
     2
     2 RETURN 1;
     2
```

```
; 1917          2310  1 END;                                        ! End of routine DIR$TOTAL



                                                         .PSECT  $PLIT$,NOWRT,NOEXE,2

                                  0059C P.AIN:           .BLKB   0                                          ;
                        00000000  0059C P.AIM:           .LONG   0                                          ;
                        00000000' 005A0                  .ADDRESS P.AIN                                     ;
                              00  005A4 P.AIP:           .BYTE   0                                          ;
                                  005A5                  .BLKB   3
                        00000001  005A8 P.AIO:           .LONG   1                                          ;
                        00000000' 005AC                  .ADDRESS P.AIP                                     ;
                              00  005B0 P.AIR:           .BYTE   0                                          ;
                                  005B1                  .BLKB   3
                        00000001  005B4 P.AIQ:           .LONG   1                                          ;
                        00000000' 005B8                  .ADDRESS P.AIR                                     ;
                              00  005BC P.AIT:           .BYTE   0                                          ;
                                  005BD                  .BLKB   3
                        00000001  005C0 P.AIS:           .LONG   1                                          ;
                        00000000' 005C4                  .ADDRESS P.AIT                                     ;



                                                         .PSECT  $CODE$,NOWRT,2

                            000C 00000                   .ENTRY  DIR$TOTAL, Save R2,R3                      ; 2253
         53       0000G  CF  9E 00002                    MOVAB   DIR$OUTPUT, R3                             ;
         52   00000000'  EF  9E 00007                    MOVAB   QUAL_FLAGS, R2                             ;
 6B    01  A2            02  E0 0000E                    BBS     #2, QUAL_FLAGS+1, 7$                       ; 2287
         67         03  A2   E9 00013                    BLBC    QUAL_FLAGS+3, 7$                           ; 2288
                  0000'  CF  9F 00017                    PUSHAB  P.AIM                                      ; 2291
                         7E  D4 0001B                    CLRL    -(SP)                                      ;
         63              02  FB 0001D                    CALLS   #2, DIR$OUTPUT                             ;
         50       0444  C2   D0 00020                    MOVL    TOTAL_FILES, R0                            ; 2296
 05    02  A2            03  E0 00025                    BBS     #3, QUAL_FLAGS+2, 1$                       ; 2292
 40    01  A2            01  E1 0002A                    BBC     #1, QUAL_FLAGS+1, 6$                       ;
 05    02  A2            04  E0 0002F 1$:                BBS     #4, QUAL_FLAGS+2, 2$                       ; 2295
 16    01  A2            01  E1 00034                    BBC     #1, QUAL_FLAGS+1, 3$                       ;
         7E       043C  C2   7D 00039 2$:                MOVQ    TOTAL_USED, -(SP)                          ; 2296
                         50  DD 0003E                    PUSHL   R0                                         ;
                  0000'  CF  9F 00040                    PUSHAB  P.AIO                                      ;
              00000000G  8F  DD 00044                    PUSHL   #DIR$_TOTSIZALL                            ;
         63              05  FB 0004A                    CALLS   #5, DIR$OUTPUT                             ;
                         2F  11 0004D                    BRB     7$                                         ;
 06    02  A2            06  E1 0004F 3$:                BBC     #6, QUAL_FLAGS+2, 4$                       ; 2298
                  043C  C2   DD 00054                    PUSHL   TOTAL_USED                                 ;
                         04  11 00058                    BRB     5$                                         ;
                  0440  C2   DD 0005A 4$:                PUSHL   TOTAL_ALLOC                                ;
                         50  DD 0005E 5$:                PUSHL   R0                                         ;
                  0000'  CF  9F 00060                    PUSHAB  P.AIQ                                      ;
              00000000G  8F  DD 00064                    PUSHL   #DIR$_TOTSIZ                               ;
         63              04  FB 0006A                    CALLS   #4, DIR$OUTPUT                             ;
                         0F  11 0006D                    BRB     7$                                         ; 2292
                         50  DD 0006F 6$:                PUSHL   R0                                         ; 2300
                  0000'  CF  9F 00071                    PUSHAB  P.AIS                                      ;
              00000000G  8F  DD 00075                    PUSHL   #DIR$_TOTNOSIZ                             ;
```

```
_$2



Sym
---
ACT
ACT
ACT
ACT
ACT
ACT
ACT
ACT
ACT
ACT
CHE
CHE
COM
DEF
DIS
ERA
EXI
GET
GET
IOC
IOC
KEY
LBR
LBR
LBR
LEF
LIB
LIB
LIB
LIB
LIB
LIB
LIB
LIB
MAI
PMS
REB
SGN
SGN
SGN
STA
STA
SYS
SYS
SYS
SYS
SYS
SYS
SYS
```

```
                 63              03  FB 0007B        CALLS   #3, DIR$OUTPUT                                   ;
         0448    C2      043C    C2  C0 0007E  7$:   ADDL2   TOTAL_USED, GRAND_USED                           ; 2302
         044C    C2      0440    C2  C0 00085        ADDL2   TOTAL_ALLOC, GRAND_ALLOC                         ; 2303
         0450    C2      0444    C2  C0 0008C        ADDL2   TOTAL_FILES, GRAND_FILES                         ; 2304
                         0454    C2  D6 00093        INCL    GRAND_DIRS                                       ; 2305
                         0440    C2  7C 00097        CLRQ    TOTAL_ALLOC                                      ; 2306
                         043C    C2  D4 0009B        CLRL    TOTAL_USED                                       ;
                 50              01  D0 0009F        MOVL    #1, R0                                           ; 2308
                                     04 000A2        RET                                                      ; 2310

; Routine Size:  163 bytes,    Routine Base:  $CODE$ + 19BE
```

```
_$2

Sym
---
SYS
SYS
SYS
SYS
SYS
SYS
USE
```

```
; 1919          2311  1 GLOBAL ROUTINE DIR$GRAND_TOTAL =
; 1920          2312  1
; 1921          2313  1 !++
; 1922          2314  1 !
; 1923          2315  1 ! FUNCTIONAL DESCRIPTION:
; 1924          2316  1 !       Display the overall totals
; 1925          2317  1 !
; 1926          2318  1 ! CALLING SEQUENCE:
; 1927          2319  1 !       DIR$GRAND_TOTAL ()
; 1928          2320  1 !
; 1929          2321  1 ! INPUT PARAMETERS:
; 1930          2322  1 !       none
; 1931          2323  1 !
; 1932          2324  1 ! IMPLICIT INPUTS:
; 1933          2325  1 !       none
; 1934          2326  1 ! OUTPUT PARAMETERS:
; 1935          2327  1 !       none
; 1936          2328  1 !
; 1937          2329  1 ! IMPLICIT OUTPUTS:
; 1938          2330  1 !       none
; 1939          2331  1 !
; 1940          2332  1 ! ROUTINE VALUE:
; 1941          2333  1 !       1
; 1942          2334  1 !
; 1943          2335  1 ! SIDE EFFECTS:
; 1944          2336  1 !       none
; 1945          2337  1 !
; 1946          2338  1 !--
; 1947          2339  1
; 1948          2340  2 BEGIN
; 1949          2341  2
; 1950          2342  2 EXTERNAL ROUTINE
; 1951          2343  2         DIR$OUTPUT;                                     ! General output routine
; 1952          2344  2
; 1953          2345  2 IF NOT .QUAL_FLAGS[DIR_V_QUAL_TRAI] THEN RETURN 1;
; 1954          2346  2
; 1955          2347  2 WRITE (0, '');
; 1956          2348  2 IF .QUAL_FLAGS[DIR_V_QUAL_SIZE] OR .QUAL_FLAGS[DIR_V_QUAL_FULL]
; 1957          2349  2 THEN
; 1958          2350  3     BEGIN
; 1959          2351  3     IF .QUAL_FLAGS[DIR_V_SIZE_ALL] OR .QUAL_FLAGS[DIR_V_QUAL_FULL]
; 1960          2352  3     THEN
; 1961          2353  4         BEGIN
; 1962          2354  4         IF .GRAND_DIRS NEQ 1
; 1963        P 2355  4         THEN WRITE (DIR$_GTOTSIZALL, 0, .GRAND_DIRS, .GRAND_FILES,
; 1964          2356  4                                    .GRAND_USED, .GRAND_ALLOC)
; 1965        P 2357  4         ELSE WRITE (DIR$_GTOTSIZALL1, 0, .GRAND_DIRS, .GRAND_FILES,
; 1966          2358  4                                    .GRAND_USED, .GRAND_ALLOC);
; 1967          2359  4         END
; 1968          2360  3     ELSE
; 1969          2361  4         BEGIN
; 1970          2362  4         IF .GRAND_DIRS NEQ 1
; 1971        P 2363  4         THEN WRITE (DIR$_GTOTSIZ, 0, .GRAND_DIRS, .GRAND_FILES,
; 1972        P 2364  4                                 (IF .QUAL_FLAGS[DIR_V_SIZE_USED]
; 1973          2365  4                                  THEN .GRAND_USED ELSE .GRAND_ALLOC))
; 1974        P 2366  4         ELSE WRITE (DIR$_GTOTSIZ1, 0, .GRAND_DIRS, .GRAND_FILES,
; 1975        P 2367  4                                 (IF .QUAL_FLAGS[DIR_V_SIZE_USED]
; 1976          2368  4                                  THEN .GRAND_USED ELSE .GRAND_ALLOC));
; 1977          2369  3               END;
; 1978          2370  3         END
; 1979          2371  2 ELSE
; 1980          2372  3         BEGIN
; 1981          2373  3         IF .GRAND_DIRS NEQ 1
; 1982          2374  3         THEN WRITE (DIR$_GTOTNOSIZ, 0, .GRAND_DIRS, .GRAND_FILES)
; 1983          2375  3         ELSE WRITE (DIR$_GTOTNOSIZ1, 0, .GRAND_DIRS, .GRAND_FILES);
; 1984          2376  2         END;
; 1985          2377  2
; 1986          2378  2 RETURN 1;
; 1987          2379  2
; 1988          2380  1 END;                                             ! End of routine DIR$GRAND_TOTAL


                                                                  .PSECT  $PLIT$,NOWRT,NOEXE,2

                                        005C8 P.AIV:    .BLKB    0                                  ;
                              00000000  005C8 P.AIU:    .LONG    0                                  ;
                              00000000' 005CC           .ADDRESS P.AIV                              ;
                                    00  005D0 P.AIX:    .BYTE    0                                  ;
                                        005D1           .BLKB    3
                              00000001  005D4 P.AIW:    .LONG    1                                  ;
                              00000000' 005D8           .ADDRESS P.AIX                              ;
                                    00  005DC P.AIZ:    .BYTE    0                                  ;
                                        005DD           .BLKB    3
                              00000001  005E0 P.AIY:    .LONG    1                                  ;
                              00000000' 005E4           .ADDRESS P.AIZ                              ;
                                    00  005E8 P.AJB:    .BYTE    0                                  ;
                                        005E9           .BLKB    3
                              00000001  005EC P.AJA:    .LONG    1                                  ;
                              00000000' 005F0           .ADDRESS P.AJB                              ;
                                    00  005F4 P.AJD:    .BYTE    0                                  ;
                                        005F5           .BLKB    3
                              00000001  005F8 P.AJC:    .LONG    1                                  ;
                              00000000' 005FC           .ADDRESS P.AJD                              ;
                                    00  00600 P.AJF:    .BYTE    0                                  ;
                                        00601           .BLKB    3
                              00000001  00604 P.AJE:    .LONG    1                                  ;
                              00000000' 00608           .ADDRESS P.AJF                              ;
                                    00  0060C P.AJH:    .BYTE    0                                  ;
                                        0060D           .BLKB    3
                              00000001  00610 P.AJG:    .LONG    1                                  ;
                              00000000' 00614           .ADDRESS P.AJH                              ;


                                                                  .PSECT  $CODE$,NOWRT,2

                                  007C 00000           .ENTRY   DIR$GRAND_TOTAL, Save R2,R3,R4,R5,R6     ; 2311
                    56      0000G  CF  9E 00002           MOVAB    DIR$OUTPUT, R6                            ;
                    55      0000'  CF  9E 00007           MOVAB    P.AIU, R5                                 ;
                    54  00000000'  EF  9E 0000C           MOVAB    QUAL_FLAGS, R4                            ;
                    4F         03  A4  E9 00013           BLBC     QUAL_FLAGS+3, 5$                          ; 2345
                                   55  DD 00017           PUSHL    R5                                        ; 2347
                                   7E  D4 00019           CLRL     -(SP)                                     ;
```

```
                       66            02  FB 0001B        CALLS   #2, DIR$OUTPUT                          ;
                       52      0454  C4  D0 0001E        MOVL    GRAND_DIRS, R2                          ; 2354
                       53      0450  C4  D0 00023        MOVL    GRAND_FILES, R3                         ; 2356
         05      02    A4            03  E0 00028        BBS     #3, QUAL_FLAGS+2, 1$                    ; 2348
         76      01    A4            01  E1 0002D        BBC     #1, QUAL_FLAGS+1, 13$                   ;
         05      02    A4            04  E0 00032 1$:    BBS     #4, QUAL_FLAGS+2, 2$                    ; 2351
         2C      01    A4            01  E1 00037        BBC     #1, QUAL_FLAGS+1, 6$                    ;
                       01            52  D1 0003C 2$:    CMPL    R2, #1                                  ; 2354
                                     12  13 0003F        BEQL    3$                                      ;
                       7E      0448  C4  7D 00041        MOVQ    GRAND_USED, -(SP)                       ; 2356
                                     0C  BB 00046        PUSHR   #^M<R2,R3>                              ;
                                 0C  A5  9F 00048        PUSHAB  P.AIW                                   ;
                          00000000G  8F  DD 0004B        PUSHL   #DIR$_GTOTSIZALL                        ;
                                     10  11 00051        BRB     4$                                      ;
                       7E      0448  C4  7D 00053 3$:    MOVQ    GRAND_USED, -(SP)                       ; 2358
                                     0C  BB 00058        PUSHR   #^M<R2,R3>                              ;
                                 18  A5  9F 0005A        PUSHAB  P.AIY                                   ;
                          00000000G  8F  DD 0005D        PUSHL   #DIR$_GTOTSIZALL1                       ;
                       66            06  FB 00063 4$:    CALLS   #6, DIR$OUTPUT                          ;
                                     60  11 00066 5$:    BRB     16$                                     ; 2351
                       01            52  D1 00068 6$:    CMPL    R2, #1                                  ; 2362
                                     1C  13 0006B        BEQL    9$                                      ;
         06      02    A4            06  E1 0006D        BBC     #6, QUAL_FLAGS+2, 7$                    ; 2365
                               0448  C4  DD 00072        PUSHL   GRAND_USED                              ;
                                     04  11 00076        BRB     8$                                      ;
                               044C  C4  DD 00078 7$:    PUSHL   GRAND_ALLOC                             ;
                                     0C  BB 0007C 8$:    PUSHR   #^M<R2,R3>                              ;
                                 24  A5  9F 0007E        PUSHAB  P.AJA                                   ;
                          00000000G  8F  DD 00081        PUSHL   #DIR$_GTOTSIZ                           ;
                                     1A  11 00087        BRB     12$                                     ;
         06      02    A4            06  E1 00089 9$:    BBC     #6, QUAL_FLAGS+2, 10$                   ; 2368
                               0448  C4  DD 0008E        PUSHL   GRAND_USED                              ;
                                     04  11 00092        BRB     11$                                     ;
                               044C  C4  DD 00094 10$:   PUSHL   GRAND_ALLOC                             ;
                                     0C  BB 00098 11$:   PUSHR   #^M<R2,R3>                              ;
                                 30  A5  9F 0009A        PUSHAB  P.AJC                                   ;
                          00000000G  8F  DD 0009D        PUSHL   #DIR$_GTOTSIZ1                          ;
                       66            05  FB 000A3 12$:   CALLS   #5, DIR$OUTPUT                          ;
                                     20  11 000A6        BRB     16$                                     ; 2348
                       01            52  D1 000A8 13$:   CMPL    R2, #1                                  ; 2373
                                     0D  13 000AB        BEQL    14$                                     ;
                                     0C  BB 000AD        PUSHR   #^M<R2,R3>                              ; 2374
                                 3C  A5  9F 000AF        PUSHAB  P.AJE                                   ;
                          00000000G  8F  DD 000B2        PUSHL   #DIR$_GTOTNOSIZ                         ;
                                     0B  11 000B8        BRB     15$                                     ;
                                     0C  BB 000BA 14$:   PUSHR   #^M<R2,R3>                              ; 2375
                                 48  A5  9F 000BC        PUSHAB  P.AJG                                   ;
                          00000000G  8F  DD 000BF        PUSHL   #DIR$_GTOTNOSIZ1                        ;
                       66            04  FB 000C5 15$:   CALLS   #4, DIR$OUTPUT                          ;
                       50            01  D0 000C8 16$:   MOVL    #1, R0                                  ; 2378
                                         04 000CB        RET                                             ; 2380

; Routine Size:  204 bytes,    Routine Base:  $CODE$ + 1A61
```

```
_$2



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```
  1 GLOBAL ROUTINE DIR$APPEND (MESSAGE_CODE, CONTROL_STRING, ARGS) =
  1
  1 !++
  1 !
  1 ! FUNCTIONAL DESCRIPTION:
  1 !
  1 !       This routine accepts, as input, an $FAO control string and any
  1 !       arguments to be formatted by the control string.  The formatted
  1 !       line is then appended to the current line.
  1 !
  1 ! CALLING SEQUENCE:
  1 !       DIR$APPEND (ARG1, ARG2, ..., ARGn)
  1 !
  1 ! INPUT PARAMETERS:
  1 !       ARG1: message code for the text to display
  1 !       ARG2: address of the $FAO control string
  1 !       ARG3 - ARGn: arguments to be formatted
  1 !
  1 ! IMPLICIT INPUTS:
  1 !       none
  1 !
  1 ! OUTPUT PARAMETERS:
  1 !       none
  1 !
  1 ! IMPLICIT OUTPTUS:
  1 !       none
  1 !
  1 ! ROUTINE VALUE:
  1 !       1
  1 !
  1 ! SIDE EFFECTS:
  1 !       none
  1 !
  1 !--
  1
  2 BEGIN
  2
  2 MAP
  2         CONTROL_STRING  : REF $BBLOCK;            ! Address of the control string
  2
  2 LOCAL
  2         FAO_CTL_STRING  : REF $BBLOCK,            ! Addr of $FAO control string
  2         MESSAGE_DESC    : $BBLOCK [DSC$C_S_BLN],          ! Message text descr
  2         MESSAGE_TEXT    : VECTOR [256, BYTE],     ! Message text
  2         LOCAL_DESC      : $BBLOCK [DSC$C_S_BLN];          ! Local copy of line descriptor
  2
  2 ! If there is a message code present, get the message text via a $GETMSG.
  2 ! Otherwise, use the descriptor supplied.
  2
  2 IF .MESSAGE_CODE NEQ 0
  2 THEN
  3     BEGIN
  3     CH$FILL (0, DSC$C_S_BLN, MESSAGE_DESC);
  3     MESSAGE_DESC[DSC$W_LENGTH] = 256;
  3     MESSAGE_DESC[DSC$A_POINTER] = MESSAGE_TEXT;
P 3     $GETMSG (MSGID = .MESSAGE_CODE,
P 3             MSGLEN = MESSAGE_DESC[DSC$W_LENGTH],
; 2047        P 2438  3                 BUFADR = MESSAGE_DESC,
; 2048          2439  3                 FLAGS = 1);
; 2049          2440  3         FAO_CTL_STRING = MESSAGE_DESC;
; 2050          2441  3         END
; 2051          2442  2     ELSE FAO_CTL_STRING = .CONTROL_STRING;
; 2052          2443  2
; 2053          2444  2     ! Format the line.
; 2054          2445  2
; 2055          2446  2     CH$FILL (0, DSC$C_S_BLN, LOCAL_DESC);
; 2056          2447  2     LOCAL_DESC[DSC$W_LENGTH] = 1024 - .LINE_DESC[DSC$W_LENGTH];
; 2057          2448  2     LOCAL_DESC[DSC$A_POINTER] = LINE_BUFFER[.LINE_DESC[DSC$W_LENGTH]];
; 2058          2449  2
; 2059        P 2450  2     $FAOL (CTRSTR = .FAO_CTL_STRING,
; 2060        P 2451  2            OUTLEN = LOCAL_DESC,
; 2061        P 2452  2            OUTBUF = LOCAL_DESC,
; 2062          2453  2            PRMLST = ARGS);
; 2063          2454  2
; 2064          2455  2     LINE_DESC[DSC$W_LENGTH] = .LINE_DESC[DSC$W_LENGTH] + .LOCAL_DESC[DSC$W_LENGTH];
; 2065          2456  2
; 2066          2457  2     RETURN 1;
; 2067          2458  2
; 2068          2459  1     END;                                                    ! End of routine DIR$APPEND



                                                                .EXTRN  SYS$FAOL

                                             00FC 00000         .ENTRY  DIR$APPEND, Save R2,R3,R4,R5,R6,R7            ; 2381
                             57 00000000'  EF  9E 00002         MOVAB   LINE_DESC, R7                                 ;
                             5E      FEF0  CE  9E 00009         MOVAB   -272(SP), SP                                  ;
                                       04  AC  D5 0000E         TSTL    MESSAGE_CODE                                  ; 2430
                                           2B  13 00011         BEQL    1$                                            ;
08             00            6E            00  2C 00013         MOVC5   #0, (SP), #0, #8, MESSAGE_DESC                ; 2433
                                       F8  AD     00018                                                               ;
                        F8   AD      0100  8F  B0 0001A         MOVW    #256, MESSAGE_DESC                            ; 2434
                        FC   AD        08  AE  9E 00020         MOVAB   MESSAGE_TEXT, MESSAGE_DESC+4                  ; 2435
                             7E            01  7D 00025         MOVQ    #1, -(SP)                                     ; 2439
                                       F8  AD  9F 00028         PUSHAB  MESSAGE_DESC                                  ;
                                       F8  AD  9F 0002B         PUSHAB  MESSAGE_DESC                                  ;
                                       04  AC  DD 0002E         PUSHL   MESSAGE_CODE                                  ;
                  00000000G  00            05  FB 00031         CALLS   #5, SYS$GETMSG                                ;
                             56        F8  AD  9E 00038         MOVAB   MESSAGE_DESC, FAO_CTL_STRING                  ; 2440
                                           04  11 0003C         BRB     2$                                            ; 2430
                             56        08  AC  D0 0003E 1$:     MOVL    CONTROL_STRING, FAO_CTL_STRING                ; 2442
08             00            6E            00  2C 00042 2$:     MOVC5   #0, (SP), #0, #8, LOCAL_DESC                  ; 2446
                                           6E     00047                                                               ;
               6E    0400    8F            67  A3 00048         SUBW3   LINE_DESC, #1024, LOCAL_DESC                  ; 2447
                             50        08  A7  9E 0004E         MOVAB   LINE_BUFFER, R0                               ; 2448
                             51            67  3C 00052         MOVZWL  LINE_DESC, R1                                 ;
          04   AE            50            51  C1 00055         ADDL3   R1, R0, LOCAL_DESC+4                          ;
                                       0C  AC  9F 0005A         PUSHAB  ARGS                                          ; 2453
                                       04  AE  9F 0005D         PUSHAB  LOCAL_DESC                                    ;
                                       08  AE  9F 00060         PUSHAB  LOCAL_DESC                                    ;
                                           56  DD 00063         PUSHL   FAO_CTL_STRING                                ;
                  00000000G  00            04  FB 00065         CALLS   #4, SYS$FAOL                                  ;
                             67            6E  A0 0006C         ADDW2   LOCAL_DESC, LINE_DESC                         ; 2455
                             50            01  D0 0006F         MOVL    #1, R0                                        ; 2457
```

```
                                         04 00072            RET                                                   ; 2459

; Routine Size:  115 bytes,    Routine Base:  $CODE$ + 1B2D


; 2069           2460  1
; 2070           2461  1 END
; 2071           2462  0 ELUDOM




;                             PSECT SUMMARY
;
;       Name                      Bytes                         Attributes
;
;   DIR$COMMON                       2164  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  OVR,NOPIC,ALIGN(0)
;   $PLIT$                           1560  NOVEC,NOWRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;   $OWN$                              68  NOVEC,  WRT,  RD ,NOEXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)
;   $CODE$                           7072  NOVEC,NOWRT,  RD , EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)




;                          Library Statistics
;
;                                        -------- Symbols --------       Pages        Processing
;       File                             Total    Loaded   Percent       Mapped       Time
;
;   _$255$DUA28:[SYSLIB]LIB.L32;1        18619      237          1       1000           00:01.7





;                             COMMAND QUALIFIERS

;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:DISPLAY/OBJ=OBJ$:DISPLAY MSRC$:DISPLAY/UPDATE=(ENH$:DISPLAY)

; Size:          7072 code + 3792 data bytes
; Run Time:         02:08.7
; Elapsed Time:     06:07.6
; Lines/CPU Min:     1147
; Lexemes/CPU-Min: 24552
; Memory Used:  898 pages
; Compilation Complete
```

0104 AH-BT13A-SE
VAX/VMS V4.0

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DISMOUNT
MAP

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LIS

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DISKQUOTA
MAP

DISPLAY
LIS